ECON2280 – Introductory Econometrics

GENERAL INFORMATION

Instructor: Dr. Clement Wong
Email: ypclemw@hku.hk
Office: KKL 921
Phone: 2859 1037
Consultation times: TBA

Tutor: TBA
Course website: Available through HKU Portal e-learning
Other important details: N/A

COURSE DESCRIPTION

Econometrics is the branch of economics that formulates statistical methodology for use in analyzing non-experimental data. Consequently, the objective of this course is to introduce the classical linear regression model and apply it to analyze empirical data in economics, finance, and other social science fields. The topics include estimation, hypothesis testing, multiple linear regression, Gauss-Markov theorem, multicollinearity, model misspecifications, functional form specifications, dummy variables, and time series regression.

Pre-requisite(s): ECON1210 Introductory microeconomics; *and* ECON1280 Analysis of economic data *or* STAT1601 Elementary statistical methods *or* STAT1602 Business statistics *or* STAT1603 Introductory statistics *or* STAT2601 Probability & statistics I *or* STAT2901 Probability & statistics: Foundations of Actuarial Science

Co-requisite(s): None
Mutually exclusive: STAT3614 Business Forecasting, STAT3907 Linear models and Forecasting

COURSE OBJECTIVES

1.   To acquire and internalize knowledge of statistical methods used by economists.

2.   To apply these methods in a variety of real world data (e.g. microeconomics, macroeconomics, business, government policies, etc.)

3.   To interpret and explain regression results to end users.

FACULTY LEARNING GOALS (FLGs)

FLG1: Acquisition and internalization of knowledge of the programme discipline
FLG2: Application and integration of knowledge
FLG3: Inculcating professionalism
FLG4: Developing global outlook
FLG5: Mastering communication skills
FLG6: Cultivating leadership

COURSE LEARNING OUTCOMES (CLOs)

Course Learning Outcomes	Aligned Faculty Learning Goals (FLGs)
CLO1. Formulate regression models to describe the economic relationship among variables.	FLG 1, 2
CLO2. Understand the desirable properties of estimators.	FLG 1, 2

CLO3. Estimate and test hypotheses about underlying economic relations.	FLG 1, 2, 3
CLO4. Understand the implications for estimation results under classical linear model assumptions and the consequences of their violations.	FLG 1, 2
CLO5. Apply econometric software/ statistic tables to conduct regression analyses.	FLG 1, 2
CLO6. Interpret and explain regression outputs.	FLG 3, 5

COURSE TEACHING AND LEARNING ACTIVITIES

Course Teaching and Learning Activities	Expected Study Hours	Study Load (% of study)
T&L1: Lectures	36	30
T&L2: Tutorial discussion	12	10
T&L3: Self-study	72	60
Total	120	100

Assessment Methods	Brief Description (Optional)	Weight	Aligned Course Learning Outcomes
A1: Assignments	4 to 5 assignments will be given	20%	FLG1 to 5
A2: Midterm exam	This is a common exam for students from all subclasses. Date: Sunday, October 24 Time: TBA	30%	FLG1 to 5
A3: Final exam		50%	FLG1 to 5
Total		100%	

Coursework / Examination Ratio: 50   % /   50   %

STANDARDS FOR ASSESSMENT
Course Grade Descriptors

A+, A, A-	Strong evidence of superb ability to fulfill the intended learning outcomes of the course at all levels of learning: describe, apply, evaluate, and synthesis.
B+, B, B-	Strong evidence of the ability to fulfill the intended learning outcomes of the course at all levels of learning: describe, apply, evaluate, and synthesis.
C+, C, C-	Evidence of adequate ability to fulfill the intended learning outcomes of the course at low levels of learning such as describe and apply but not at high levels of learning such as evaluate and synthesis
D+, D	Evidence of basic familiarity with the subject.
F	Little evidence of basic familiarity with the subject.

Assessment Rubrics for Each Assessment (Please provide us the details in a separate file if the space here is not enough)
Same as in course grade descriptors.

COURSE CONTENT AND TENTATIVE TEACHING SCHEDULE

1. Nature of Econometrics and Economic Data   Chapter 1
   Review of probability and statistic concepts   Appendices A, B, C[*]

2. The Simple Regression Model   Chapter 2

   Note: Exclude section 2-6 Regression through the Origin Regression on a Constant
          section 2-7 Regression on a Binary Explanatory Variable

3. Multiple Regression Analysis: Estimation   Chapter 3

   Note: Exclude section 3-2i Regression through the Origin
          proof of Theorem 3.4 on page 115 in Appendix 3A

4. Multiple Regression Analysis: Inference   Chapter 4

5. Multiple Regression: Further Issues   Chapter 6

   Note: Exclude from section 6-4b Residual Analysis to the end of the chapter

6. Regression Analysis with Qualitative Information   Chapter 7

7. Heteroskedasticity   Chapter 8

   Note: Exclude from page 277 to the end of the chapter

8. Basic Regression Analysis with Time Series   Chapter 10

9. Serial Correlation in Time Series Regressions[^]   Chapter 12.1 to 12.4c

[*] Selected topics from appendices A, B, C of the textbook will be covered.
[^] This topic will be covered if time permits.

REQUIRED/RECOMMENDED READINGS & ONLINE MATERIALS (e.g. journals, textbooks, website addresses etc.)

Required Textbook: Wooldridge, Jeffrey M (2020). *Introductory Econometrics: A Modern Approach*. 7th edition, Asia edition, Cengage Learning.

- With permission from the publisher, the datasets and student solution manual of the textbook have been posted in our course's Moodle page (as zip file).

- It is your responsibility to acquire the 7th edition of the textbook. The instructor and TA are prohibited from uploading end-of-the-chapter questions in Moodle due to copyright restrictions.

- A copy of the textbook is put on three-hour reserve in the Main Library.

MEANS/PROCESSES FOR STUDENT FEEDBACK ON COURSE

☐ SETL around the end of the semester

☐ Others: Consultation hours

COURSE POLICY (e.g. plagiarism, academic honesty, attendance, etc.)

1. Lecture PPT files will be posted on Moodle before each class. Please download and bring them to class.

2. Tutorials will start in Week 3. Tutorial questions will be posted on Moodle one week in advance. The TA will get in touch with you about scheduling the tutorial time slots. You are expected to come to the tutorials *fully prepared*, i.e. you have already worked out the problem set before the tutorials. In this way, you can follow better and the TA can spend more time to discuss the questions with you. The tutorials are dedicated to working out the tutorial questions and discussion of concepts. The TA will not give you a mini-lecture to summarize precious week's lecture.

3. Lecture PPTs are by nature brief; they are not substitutes for reading the textbook and attending lectures. Attend every single lecture at the scheduled time if you want to perform well.

4. Assignments: **All assignments must be typed**. This is a course policy that applies to all subclasses in all academic years. Please learn how to use MS Word's equation editor.

5. Econometric software:

We will use an econometric software called STATA to run regression in this course. The TA will teach you how to use STATA during tutorials. STATA can be accessed in our computer lab. You can refer to some online resources on STATA:

https://data.princeton.edu/stata
https://econweb.ucsd.edu/~elib/120b/Stata%20Tutorial.pdf

You are welcome to use other econometric software such as EView or Exce. Here are some online resources on using Excel to conduct regression:

https://www.excel-easy.com/examples/regression.html
https://www.ablebits.com/office-addins-blog/2018/08/01/linear-regression-analysis-excel/
https://www.youtube.com/watch?v=0lpfmFnlDHI

Note: Knowledge of econometric software commands is not required in the exams. However, you are expected to know how to read standard regression outputs generated by STATA.

6. Midterm examination policy - No supplementary midterm exam will be given. If you have a legitimate reason for missing the midterm, its weight will be added to the final exam. The only acceptable reasons are sickness and time clash with other midterm exam. If you cannot attend the midterm exam, you must inform the instructor or TA in person or via email, phone call or voice message *before* the exam starts. You must provide a medical certificate to verify that you have sought treatment *prior* to the exam and you are unfit to take it.

7. Seeking consultation and help - It is VERY important that you keep up with the course on a weekly basis. Never let things accumulate. Please feel free to drop by during the instructor's and TA's regular office hours. If you are not in town due to COVID19 travel restriction, you can communicate with them via email, WeChat/Whatsapp call, or Zoom.

8. Classroom conduct: Be a considerate and mature person.

      a.   Do not videotape or audio record the lectures without the instructor's permission.

      b.   Please observe the following good practices:
- Come to class and return from the break on time.
- In case you are late, minimize disruption to the class by sitting at the back.
- If you have to leave the class early, please inform the instructor beforehand and sit close to the door.
- Stay attentive and do not chat with your classmates.
- Use of mobile phone for *any* purposes is strictly prohibited. Remember to turn it off.

The instructor or TA have the discretion to impose penalty in case of classroom misconduct.

9. Academic Conduct

The University Regulations on academic dishonesty will be strictly enforced! Please check the University Statement on plagiarism on the web: http://www.hku.hk/plagiarism/

Academic dishonesty is behavior in which a deliberately fraudulent misrepresentation is employed in an attempt to gain undeserved intellectual credit, either for oneself or for another. It includes, but is not necessarily limited to, the following types of cases:

a. Plagiarism - The representation of someone else's ideas as if they are one's own. Where the arguments, data, designs, etc., of someone else are being used in a paper, report, oral presentation, or similar academic project, this fact must be made explicitly clear by citing the appropriate references. The references must fully indicate the extent to which any parts of the project are not one's own work. Paraphrasing of someone else's ideas is still using someone else's ideas, and must be **acknowledged**.

b. Unauthorized Collaboration on Out-of-Class Projects - The representation of work as solely one's own when in fact it is the result of a joint effort. Where a candidate for a degree or other award uses the work of another person or persons without due acknowledgement:
(1) The relevant Board of Examiners may impose a penalty in relation to the seriousness of the offence;
(2) The relevant Board of Examiners may report the candidate to the Senate, where there is *prima facie* evidence of an intention to deceive and where sanctions beyond those in (1) might be invoked.

Plagiarism will automatically result in zero score in the plagiarized assignment or examination. Serious cases will be referred to the University's Disciplinary Committee.

ADDITIONAL COURSE INFORMATION (e.g. e-learning platforms & materials, penalty for late assignments, etc.)	
None	