THE UNIVERSITY OF HONG KONG HKU
HKU BUSINESS SCHOOL

ECON2280 – Introductory Econometrics

GENERAL INFORMATION

Instructor:

Dr. Ping YU
Email*:   pingyu@hku.hk
Office: Room 1108, K K Leung
Phone: 2857 8358
Office hours: TBA

Dr. Clement WONG
Email*:   ypclemw@hku.hk
Office: Room 921, K K Leung
Phone: 2859 1037
Office hours: TBA

Teaching Assistant:

Jiuqi ZHAO
Email*:   zhaojq@hku.hk
Office: Room 1026, K K Leung
Phone: 2857 8308
Office hours: TBA

* Please send your emails to us directly from your email account instead of using the email communication facility in Moodle.

Pre-requisites:

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

Mutually exclusive courses: STAT3614 Business Forecasting *and* STAT3907 Linear models and Forecasting

Co-requisites: None

Course Website: Available through HKU Portal e-learning

COURSE DESCRIPTION

Econometrics is the branch of economics that formulates statistical methodology for use in analyzing economic data. Consequently, the objective of this course is to prepare students for basic empirical work in economics. In particular, topics will include multiple regression analysis, estimation and hypothesis testing, functional form specification, time series models, and limited dependent variable models. Students will have the opportunity to use actual economic data to test economic theories.

COURSE OBJECTIVES

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

2. To develop the ability to discern which method is most appropriate in a given situation, and understand the limitations of the chosen method.

3. To acquire the skills to apply these methods in a variety of contexts (e.g. microeconomic analysis, macroeconomic analysis, and policy analysis) using econometric software and statistical table.

COURSE LEARNING OUTCOMES

Course Learning Outcomes	Aligned Faculty Goals
CLO1. Understand the basic properties of estimators and the conditions under which they apply.	Goal# 1, 2
CLO2. Estimate and interpret economic relationship among variables using linear regression model.	Goal# 1, 2
CLO3. Formulate and test hypotheses about underlying economic relations using t-test, F-test, and chi-square test.	Goal# 1, 2, 3
CLO4. Understand the implications for estimation results under assumptions of the classical linear model are violated.	Goal# 1, 2
CLO5. Test for violations of the classical linear model assumptions and adjust the regression model to address them.	Goal# 1, 2
CLO6. Apply statistical software to conduct regression analyses.	Goal# 1, 2
CLO7. Interpret and present the findings of econometric analysis.	Goal# 3, 5

* Faculty Goals are as follows:

FLO1 Acquisition and internalization of knowledge of economics & finance
FLO2 Application and integration of knowledge
FLO3 Inculcating Professionalism and Leadership
FLO4 Developing global outlook
FLO5 Mastering communication skills

COURSE TEACHING AND LEARNING ACTIVITIES

Course Teaching and Learning Activities	Expected contact hour	Study Load (% of study)
Lectures	36	30%
Tutorials	12	10%
Self-study	72	60%
Total	120	100%

Assessment Methods	Brief Description (Optional)	Weight	Aligned Course Learning Outcomes
A1. Assignments		20%	CLO1-7
A2. Midterm/quizzes		30%	CLO1-7
A3. Final Examination		50%	CLO1-7

STANDARDS FOR ASSESSMENT	

Course Grade Descriptors[1]

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.

REQUIRED/RECOMMENDED READINGS & ONLINE MATERIALS

Required Textbook:

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

Note 1: It is your own 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 regulations.

Note 2: The datasets and student solution manual of the book can be downloaded free of charge from
https://www.cengage.com/cgi-wadsworth/course_products_wp.pl?fid=M20b&product_isbn_issn=9781337558860&token=68E4DD42F26552D24EA946CE07C039ECA6AD3C7D1EACC0AF29F35555C3D06972FCE9106BD47E947BF7B166E126376B63A762B4EDB5E1904BF28391C66FFF19228F99CA9DBB50AFB6&template=ASIA

Note 3: If you prefer e-book, please contact University Bookstore directly at:
textbookhku@swindonbooks.com

Note 4: A copy of the textbook will be put on two-hour reserve in the Main Library.

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[1] Assessment rubrics for each assessment are the same as in the course grade descriptors.

REQUIRED/RECOMMENDED READINGS & ONLINE MATERIALS

COURSE CONTENT AND TENTATIVE TEACHING SCHEDULE

Nature of Econometrics and Economic Data   Chapter 1

The Simple Regression Model   Chapter 2 (exclude the following sessions:
                                                 2-6 Regression through the
                                                 Origin Regression on a Constant
                                                 2-7 Regression on a Binary
                                                 Explanatory Variable)

Multiple Regression Analysis: Estimation   Chapter 3 (exclude the following sessions:
                                                   3-2i Regression through the
                                                 Origin, and 3-7 Several Scenarios
                                                 for applying Multiple Regression)

Multiple Regression Analysis: Inference   Chapter 4

Multiple Regression: Further Issues   Chapter 6 (exclude the following sessions:
                                                   6-4b Residual Analysis, 6-4c Predicting y
                                                   when log(y) is the Dependent Variable)

Regression Analysis with Qualitative Information   Chapter 7

Heteroskedasticity   Chapter 8 (exclude the following sections:
                                                   Page 277, starting with equation [8.28],
                                                   8.4b Heteroskedasticity Function Must be
                                                   Estimated, 8.4c What if the Assumed
                                                   Heteroskedasticity Function is Wrong,
                                                   8.4d Prediction and Prediction Intervals, and
                                                   8.5 Linear Probability Function Revisited)

Basic Regression Analysis with Time Series   Chapter 10
                                                   (exclude 10-3 Finite Sample Properties of OLS
                                                   under Classical Assumptions)

Note: Some topics from appendices A, B, C of the textbook will be covered in the course. You are only

COURSE POLICIES

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

2. Do bring papers and be prepared to take notes in each lecture. A lot of derivations will be done in class.

3. Tutorials:

3.1 Tutorials start in the *third* week of class. They are held in the computer lab (KKL1104 or KKL1009).

3.2 A set of tutorial questions will be posted on Moodle one week in advance.

3.3 You are expected to come to the tutorials *fully prepared*, i.e. you have already worked out the problem set before attending the tutorials. In this way, you can follow better and the TA can spend more time to discuss the questions with you.

3.4 The tutorials are dedicated to working out the tutorial questions. The TA will not give you another mini-lecture to summarize precious week's lecture.

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. Lecture PPTs are not designed as substitutes for the textbook and attending lectures. It pays to come to class for two reasons.

(a) Elaboration and exercises will be done only in class. You will miss a lot of material if you skip classes. Attend every single lecture if you want to perform well.

(b) The course requires students to not only know the technical skills of econometrics but also the ability to explain the economic intuition of econometric concepts and empirical results to end users. This ability can be acquired by reading the textbook and attending lectures.

6. Econometric software: We have been using a statistical software called STATA to teach this course. STATA is a very popular software in social science research. But it is only accessible in our computer lab due to licensing regulatons. In view of the fact that many students are not in town due to the COVID19 pandemic, we will not use STATA this year. Instead, we will use EXCEL to run regressions. Students can use EXCEL to do assignments and tutorial questions. The TA will teach you how to use EXCEL to generate regression output. Essentially we just need to know one command (the linear regression command) for most of the course.

For students who want to learn STATA as well, the TA will show you the basic commands. STATA regression outputs will be shown alongside EXCEL regression outputs for their convenience. But the course will adopt EXCEL as its regression software.

For those who want to learn more, there are many online resources (especially for EXCEL):

https://data.princeton.edu/stata
https://econweb.ucsd.edu/~elib/120b/Stata%20Tutorial.pdf
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 EXCEL commands is not required in the midterm and final exams. However, you are expected to know how to read standard regression outputs generated by EXCEL.

7. Midterm examination policies:

7.1 No supplementary midterm examination 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.

7.2 If you cannot attend the midterm exam due to sickness, 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 valid medical certificate to verify that you have sought medical treatment *prior* to the exam and that you are unfit to take the exam.

8. Regarding emails:

    a. Please do check emails from the instructor regularly for course announcements.
    b. Minimize emailing your questions to the instructor/TA since it is often difficult to answer questions effectively via emails. Please go to see them in person during their office hours.
    c. Always check the info from the instructor and this course outline. Do not ask about things you are supposed to know, such as those appear in Moodle or emails from the instructor/TA.

9. Class attendance:

    Class attendance of both lectures and tutorials will be taken starting in week 3. These records will be referred to in marginal cases.

10. Classroom conduct:

Be a considerate and mature person. The instructor and TA have the discretion to impose penalty in case of classroom misconduct. Please observe the following rules:

    a. Use of mobile phone for *any* purposes is strictly prohibited. Remember to turn it off.
    b. Do not videotape or audio record the lectures.
    c. 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 early, please inform the instructor beforehand and sit close to the door.
    d. Stay attentive and do not chat with your classmates.

11. 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 at least a zero score in the plagiarized assignment or examination. Serious cases will be referred to the University's Disciplinary Committee.