Information on Instructor and Tutor

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Tutor: Weinan Zheng
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Tutor office: TBA
Tutor office hours: TBA

Course website: A Moodle course on the HKU portal. Students are encouraged to visit the course website at least once a week.

Course Description

This course studies how practical problems can be solved applying econometric methods. The emphasis is on the application of econometric methods to the analysis of real world economic data using advanced statistical software. Topics include panel data methods, instrumental variables methods, limited dependent variable methods, and basic methods for time series models.

Pre-requisites: Students are expected to have basic knowledge of statistical and econometric methods at the introductory level. I upload two slides in Moodle, aiming to review the related knowledge that is necessary for understanding the lectures. If you are not confident with your background, please do read them through.

Course Materials


Students are encouraged to check out student resources the publisher provides on the Internet. Lecture slides will be posted on the course website. Additional handouts will be distributed when needed to supplement the textbook.

Course Objectives

1. To provide knowledge of econometric methods for analysis of economic data
2. To provide hands-on experiences of data analysis using statistical software

Learning Outcomes
By the end of this course, students are expected to:

CLO1. Be familiar with the basics of statistics and econometrics
CLO2. Be able to build an econometric model for a problem and choose an appropriate econometric method to estimate the model
CLO3. Be able to do estimation and hypothesis testing of the econometric model using statistical software
CLO4. Be able to interpret results

Alignment of Program and Course Outcomes

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<th>Program Learning Outcomes</th>
<th>Alignment with CLOs</th>
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<td>PLO1. Understanding of fundamental theories and new development in economics</td>
<td>CLO1</td>
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<tr>
<td>PLO2. Mastering of skills in analyzing economic data</td>
<td>CLO1 and CLO2</td>
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<tr>
<td>PLO3. Demonstration of ability to apply economic knowledge and analytical skills to address policy and business problems</td>
<td>CLO3</td>
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Teaching and Learning Activities

1. Lectures: The instructor gives lectures on major concepts and issues.
2. Consultation: The instructor and tutors holds weekly consultation hours.
3. Weekly TA section will start from the fourth week. The tutor will go over problem sets and discuss more exercise problems during the in-class sessions, while in some sessions the tutor will show you how to use the statistical software – STATA to do the analysis.
4. Homework: Students are required to solve problems and do exercises to internalize basic concepts, and carry out mini econometric analysis of economic data using statistical software.

Assessment Tasks/Evaluation Plan

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<th>Learning outcomes</th>
<th>Teaching and learning activities</th>
<th>Assessment tasks</th>
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<td>PLO1,2,3,4</td>
<td>PLO1,2,3,4</td>
<td>Homework and final exam</td>
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This course will include the following types of assessment:

Homework : 30%
Mid-term Exam : 30%
Final Exam : 40%

There will be 3 homework assignments in total, which are intended to help students understand course materials and give hands-on experiences with empirical applications. Homework will be posted on the course website. *Homework must be handed in individually and no late homework assignments will be accepted.*

The final exam is to be scheduled by the exam unit of the University.
Academic Conduct

The University regulations on academic dishonesty will be strictly enforced. Also, please check the University Statement on plagiarism at http://www.hku.hk/plagiarism/

Course Outline (subject to change; SW denotes Stock and Watson)

Week 1  Review of linear regression models 1 (SW Ch. 4 – 5)
         - Linear regression models with a single regressor

Week 2  Review of linear regression models 2 (SW, Ch. 6 – 7)
         - Linear regression models with multiple regressors

Week 3  Nonlinear Regression models (SW, Ch. 8)

Week 4  Regressions with a binary dependent variable  (SW, Ch. 11; Wooldridge, Ch. 17)

Week 5  Assessing studies based on multiple regression (SW Chapter 9)

Week 6  Regressions with panel data 1  (SW Ch. 10; Wooldridge Ch.13)

Week 7  Mid-term

Week 8  Regressions with panel data 2  (SW Ch. 10; Wooldridge Ch.14)

Week 9  Instrumental variables methods 1 (SW, Ch. 12; Wooldridge, Ch. 15)

Week 10 Instrumental variables methods 2 (SW, Ch. 12; Wooldridge, Ch. 15)

Week 11 Experiments and Quasi-Experiments (SW, Ch. 13)

Week 12 Introduction to times series regressions and forecasting  (SW, Ch. 14)

Statistical Software and Data

Since the course is intended to give students hands-on experiences of data analysis, it is very important for students to learn and get familiar with statistical software. Homework will have empirical analysis exercises. The main software program for the course is STATA which is available on computers at the school’s computer lab, KKL 1009 and KKL 1102. STATA is also available on a server of the School. The details for server access will be provided later on.

There are many resources available online to help you learn and use STATA. You can visit the official website of STATA at http://www.stata.com/links/resources1.html. In particular, a tutorial at http://data.princeton.edu/stata/ is well organized.

Data for homework assignments will be posted on the course website.