Econ 532
Advanced Econometrics II
4th Module, 2019-2020

Course Information

Instructor:

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Classes:
Lectures: Tue & Fri, 15:30-17:20
Venue: Online

Course Website:
cms.phbs.pku.edu.cn
Enrollment Key: PHBS2020
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1. Course Description

1.1 Context

Course overview: This course is the second part of a two sequence course in econometric theory. The course deals with econometric methods, theory and applications designed for the analysis of cross-section and panel data models, with focus on identification, estimation and inference. It can be viewed as an introductory course in microeconometrics since the covered methods are most often used in empirical microeconomic research. The main topics include GMM, instrumental variable estimators, panel data models, binary and multinomial response models and treatment effect models. Students are expected to master the finite sample and asymptotic properties of the above methods, implement them in statistical/programming software (such as Python, Stata, etc) and real empirical applications. The course is analytical-oriented in nature.

Prerequisites: Econ 531 Advanced Microeconomics II
The course assumes that students have taken undergraduate econometrics and intermediate microeconomics. It also assumes that students are comfortable with multivariable calculus, linear algebra, and probability theory and statistics. Students should have some basic knowledge of programming language such as Python.

1.2 Textbooks and Reading Materials

This course primarily uses and selects lecture notes from the course slides complied by Victor Aguirregabiria. There is no required textbook in this course. However, you will find the following popular textbooks very useful. In addition, you should be able to acquit with and refer to all available and related online materials.

(CT) Cameron, C. and P. Trivedi. *Microeconometrics: Methods and Applications*, Cambridge University Press, 2005

(W) Jeffrey M Wooldridge. *Econometric analysis of cross section and panel data*. MIT press, 2010

Recommended reading

Joshua D. Angrist and Jörn-Steffen Pischke. *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton University Press, 2009.

2.1 Intended Learning Outcomes

Learning Goals	Objectives	Assessment (YES with details or NO)
1. Our graduates will be effective communicators.	1.1. Our students will produce quality business and research-oriented documents.	No.
	1.2. Students are able to professionally present their ideas and also logically explain and defend their argument.	Yes. Written exam
2. Our graduates will be skilled in team work and leadership.	2.1. Students will be able to lead and participate in group for projects, discussion, and presentation.	No.
	2.2. Students will be able to apply leadership theories and related skills.	No.
3. Our graduates will be trained in ethics.	3.1. In a case setting, students will use appropriate techniques to analyze business problems and identify the ethical aspects, provide a solution and defend it.	Yes. Written exam
	3.2. Our students will practice ethics in the duration of the program.	No.
4. Our graduates will have a global perspective.	4.1. Students will have an international exposure.	No.
5. Our graduates will be skilled in problem-solving and critical thinking.	5.1. Our students will have a good understanding of fundamental theories in their fields.	Yes. Written exam.
	5.2. Our students will be prepared to face problems in various business settings and find solutions.	Yes. Written exam.
	5.3. Our students will demonstrate competency in critical thinking.	Yes. Written exam

2.2 Course specific objectives

This course provides an introduction to recently developed microeconometrics designed to meet the needs of students in the economics master/PhD program. By the end of the course, students are expected to know the concepts, assumptions, theorems, proofs and applications of cross-sectional and panel econometrics. Students will be able to analyze real data with advanced econometric methods and computer programs.

2.3 Assessment/Grading Details

Attendance (10%), Problem Sets (10%), Mid-term (or Project) (35%), Final (45%)

2.4 Academic Honesty and Plagiarism

It is important for a student's effort and credit to be recognized through class assessment. Credits earned for a student work due to efforts done by others are clearly unfair. Deliberate dishonesty is considered academic misconducts, which include plagiarism; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis.

All assessments are subject to academic misconduct check. Misconduct check may include reproducing the assessment, providing a copy to another member of faculty, and/or communicate a copy of this assignment to the PHBS Discipline Committee. A suspected plagiarized document/assignment submitted to a plagiarism checking service may be kept in its database for future reference purpose.

Where violation is suspected, penalties will be implemented. The penalties for academic misconduct may include: deduction of honour points, a mark of zero on the assessment, a fail grade for the whole course, and reference of the matter to the Peking University Registrar.

For more information of plagiarism, please refer to *PHBS Student Handbook*.

3. Topics, Teaching and Assessment Schedule

This is only a tentative schedule. List of topics is subject to change at the instructor's discretion.
Week 1. Causal analysis and IV. (CT) CH1-2,4
Week 2. Instrumental variable. (CT) CH4 (W) CH5, 8-9
Week 3. Linear panel data-static. (CT) CH21-22, (W) CH10-11,
Week 4. Linear panel data-dynamic. (CT) CH21-22, (W) CH10-11
Week 5. Binary choice model. (CT) CH14, 23.4, (W) CH15
Week 6. Midterm or Project
Week 7. Multinomial choice model. (CT) CH15
Week 8. Nonparametric and semiparametric methods. (CT) CH9
Week 9. Treatment effects and Roy model. (CT) CH25, (W) CH21
Week 10. Final exam

4. Miscellaneous

TBA