



北京大學
汇丰商学院

Peking University HSBC Business School

ECON532

Applied Econometrics

Module 3, 2016

Course Information

Instructor: Chia-Shang Chu

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Office Hour: Mon & Thu 2:30-3:30

Teaching Assistant: TBA

Phone:

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Classes:

Lectures: Mon & THU: 15:30-17:20

Venue: PHBS Building, Room 403

1. Course Description

1.1 Context

Course overview: This course emphasizes using the computer to learn important techniques and concepts in econometrics. Scheduled lab classes are required. It is an integrated part of learning in this course. The goal is to build up student's confidence in applying econometrics in the future.

Prerequisites: Econometrics I and II

1.2 Textbooks and Reading Materials

Relevant reading will be assigned in class.

2. Learning Outcomes

2.1 Intended Learning Outcomes

Learning Goals	Objectives	Assessment
1. Our graduates will be effective communicators.	1.1. Our students will produce quality business and research-oriented documents.	YES
	1.2. Students are able to professionally present their ideas and also logically explain and defend their argument.	YES
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.	NA

	2.2. Students will be able to apply leadership theories and related skills.	NA
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.	NA
	3.2. Our students will practice ethics in the duration of the program.	YES
4. Our graduates will have a global perspective.	4.1. Students will have an international exposure.	NA
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
	5.2. Our students will be prepared to face problems in various business settings and find solutions.	YES
	5.3. Our students will demonstrate competency in critical thinking.	YES

2.2 Course specific objectives

Apply econometrics to engage in persuasive empirical study.

2.3 Assessment/Grading Details

Midterm (March 31, 40%), lab participation (20%) and a final exam (40%).

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

3.1 Generating random numbers: t , gamma, F , chi-square, exponential, beta, multivariate normal, inverse transform sampling.

3.2: Lab class (Feb 25): LLN and CLT (or mastering software).

3.3 Misspecifications: Omitting variable bias; significant regression coefficient in a misspecified model; Serial correlation in time series regression.

3.4 Lab class (March 3rd)

3.5 Forecast comparison: DM test; Benchmark model (low cost forecasting); cross validation.

3.6 Combining forecasts: J test

3.7 Lab Class (March 14): Wrong model that forecasts well.

3.8 Specification search: Top down and bottom up; LM test; Wald test; Stepwise regression; data mining.

3.9 Misspecification Tests: CUSUM Test; Ramsey's RESET test

3.10 Lab Class (March 25): The effect of data mining

3.11 Nonstationarity due to break: break in Mean equation; break in variance equation.

3.12 Functional Central limit theorem: Stochastic calculus

3.13 Lab class (April 7th)

3.14 FCLT applications: Fluctuation test; nonstationary regression.

3.15 Principle component and Factor analysis

3.16 Partial Least square

3.17 Lab class (April 18)

3.18 TBA

4. Miscellaneous

Skill in software EVIEW, STATA or Matlab is required.