



北京大學
汇丰商学院

Peking University HSBC Business School

ECON T.B.D. Statistics Module 1,2018

Course Information

Instructor: Hursit Selcuk Celil

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Office Hour: Friday 15:30-17:30

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Classes:

Lectures: Tuesday & Friday 13:30-15:20

Venue: PHBS Building, Room 313

Course Website:

<https://sites.google.com/site/hscelil/>

1. Course Description

1.1 Context

This course will teach students how to comprehend and apply theoretical aspects of mathematical statistics. The approach is rigorous with precise definitions and statements. The same rigor will be asked to students at the exam. The course is not intended to give recipes but to explain "Why!" Therefore, questions are welcome. During the lectures, we will concentrate on the main ideas and concept. Some proofs are left to the students to cover. The revision of basic mathematics and probability is also for students to cover.

Prerequisites:

You are required to have completed the prerequisite courses, as specified by PKU HSBC Business School. It is assumed that students have taken basic courses in mathematics before taking this course.

1.2 Textbooks and Reading Materials

Cassella, George and Roger L. Berger, 2002, "Statistical Inference," Second Edition, Pacific Grove, CA: Duxbury.

Wasserman, Larry, 2004, "All of Statistics: A Concise Course in Statistical Inference" New York: Springer.

Note: Supplementary materials will be provided on course website if necessary.

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.	
	1.2. Students are able to professionally present their ideas and also logically explain and defend their argument.	
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.	
	2.2. Students will be able to apply leadership theories and related skills.	
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.	
	3.2. Our students will practice ethics in the duration of the program.	
4. Our graduates will have a global perspective.	4.1. Students will have an international exposure.	
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.	√
	5.2. Our students will be prepared to face problems in various business settings and find solutions.	
	5.3. Our students will demonstrate competency in critical thinking.	√

2.2 Course specific objectives

The main instrument for your self-intuition is your textbook. You are asked to:

1. Study paragraphs indicated in the (tentative) schedule even if we do not cover everything during the lectures. We will not cover topics you should know from elementary courses. Corresponding proofs are not required.
2. Read carefully the mathematical appendices if necessary. Study the topics that eventually you do not know. Corresponding proofs are not required.
3. Follow the classes. During the classes, you will be guided to learn how to build a proof and solve exercises that requests some computational effort. Corresponding proofs are required.

2.3 Assessment/Grading Details

Assessment task	Weighting
Homework assignment	30%
Midterm	30%
Final Exam	40%

The final evaluation for your performance in this course will be based on weekly individual homework assignments, a midterm exam, and a final exam which will consist of a written theoretical and empirical exercises.

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 honor 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

Week	Topics (Tentative)
1 - 3	Probability Random Variables Expectation Inequalities Convergence of Random Variables
4	Models, Statistical Inference and Learning
5-9	Estimating CDFs The Bootstrap Parametric Inference Hypothesis testing and p-values
9	Bayesian Inference Decision Theory

4. Miscellaneous

Accommodations for disability:

Students with disabilities and needs assistance are required to get in touch with the instructor as soon as possible and provide the documentary evidence if it is necessary. Instructor will be happy to accommodate students' needs.