



**ISOM2500 Business Statistics (L1 & L2)
Fall Semester 2023-24**

Course Outline

Instructor	Professor Jason MW HO Senior Lecturer Department of Information Systems, Business Statistics, and Operations Management (ISOM) LSK 4082B
Office Email	imjasonho@ust.hk
Teaching Assistant Office Email	Mr. Kenny Chih Kang HAN LSK 4049C imkhan@ust.hk

Class Schedule and Location

L1:	1200 – 1320 (Mon & Wed), 4 Sep – 29 Nov 2023 (except 2 & 23 Oct)	Room 4619
L2:	0900 – 1020 (Mon & Wed), 4 Sep – 29 Nov 2023 (except 2 & 23 Oct)	Room 2465

Course Objective

Statistics play an important role in every discipline that utilizes data. The diverse areas involving usage of Statistics include Science, Medicine, Engineering, Business, among others. Facing abundant amount of data that quantify relevant information to a problem in the Business world, we must understand basic concepts and methods in statistical thinking and reasoning so that we can analyze the situation and make decision wisely and effectively.

Upon completion of the course, you should be able to

- Understand basic concepts and methods in statistical thinking and reasoning so that you are able to decide what statistical techniques are most appropriate to use in a given situation, and state their advantages and limitations;
- Know how to interpret and present statistical results that are either self-produced or provided by others;
- Know how to apply both descriptive and/or basic inferential methods in statistics to solve a real problem in business environment;
- Understand that statistics is not simply about doing calculations or using statistical softwares;
- Be prepared to pick up multiple linear regression in your subsequent courses;
- Overcome any anxiety you may have about dealing with data and using Statistics.

Course Materials

- Class PowerPoints, and other teaching materials available on course Canvas in HKUST iLearn (<https://ilearn.ust.hk/iLearn/home.html>), or HKUST iLearn App on App Store or Google Play
- Recommended Textbook: *Statistics for Business Decision Making and Analysis* (2nd ed), Robert Stine, Dean Foster, Pearson (2014)
- Required software: MS Excel

Learning Approach

Lectures are designed to give an overview of concepts, aided by directed discussion. Introduction of concepts and methods in a relevant context will be followed by discussion of their applications to enhance understanding. Following lectures is a must. However, lectures are not a substitute for practicing. Proactively and repeatedly engaging in problem solving and reading after attending lectures helps grasp statistical concepts and understand the subject matters. To facilitate this, some practice questions will be uploaded on Canvas in due course. Apart from those questions, you are also urged to work on exercises or problems in the textbook.

Assessment

Your final grade will be based on the following activities:

1	Midterm Examination	30%	Closed-book, with help sheet (2 pieces of A4-size paper with any content on both sides) allowed. 18 Oct, 8:00-9:00pm
2	Final Examination	50%	Closed-book, with help sheet (2 pieces of A4-size paper with any content on both sides) allowed. Date/time to be determined by university
3	Assignment	15%	There will be 2 sets of homework assignments. Students should form groups of 3 students to finish the assignments jointly. Free-riding or irresponsible behavior may result in lower individual mark. Group formation should be completed in Canvas by end of 17 Sep.
4	Participation	5%	Classroom participation is crucial to a lively and effective learning environment. Your participation will be assessed according to contributions to in-class discussion and learning via use of iPRS (available in HKUST iLearn) and Canvas quiz.

Academic Integrity

Without academic integrity, there is no serious learning. Thus, you are expected to hold the highest standard of academic integrity in the course. It is the policy of HKUST that there should be ZERO tolerance for academic dishonesty. Students who are found to have violated the principle of academic integrity will be subject to academic disciplinary actions. Please make sure adhere to the HKUST Academic Honor Code at all time (see <https://registry.hkust.edu.hk/resource-library/academic-honor-code-and-academic-integrity>).

Course Plan

Module/Activity	Date	Chapters in Textbook
Module 0. Overview	Sep 4	1
Module 1. Data and Variation	Sep 4, 6, 11	2, 3, 4
Module 2. Association and Dependence	Sep 13	5, 6
Module 3. Probability	Sep 18, 20	7, 8
Module 4. Discrete Random Variables	Sep 25, 27	9, 11
Module 5. Continuous Random Variables	Oct 4, 9, 11	12
Midterm Examination	Oct 18, 8-9pm	
Module 6. Sampling and Sampling Distribution	Oct 16, 25	13, 14
Module 7. Standard Error and Confidence Interval	Oct 30, Nov 1	15
Module 8. Hypothesis Testing	Nov 6, 8, 13	16
Module 9. Fitting Equation to Data	Nov 15, 20, 22	19, 22
Module 10. Inference in Simple Linear Regression	Nov 27, 29	21