

# ISOM2500 (L3, L4) - Business Statistics

## Course Outline

### **LECTURE**

Instructor: Prof Xuhu Wan

Room: 4072 (LSK Business building); Email: [imwan@ust.hk](mailto:imwan@ust.hk)

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Instructional Assistant: Mr. Mak Isaac C C, [imccmak@ust.hk](mailto:imccmak@ust.hk)

Office Hours: send an email to make an appointment.

Class meets:

L03: 1-FEB-2021 – 8 -MAY-2021

Wed, Fri 4:30PM - 5:50 PM

L04: 1-FEB-2021 - 8-MAY-2021

Mon, Wed 12:00PM – 1:20PM

### **REFERENCE BOOK**

Stine and Foster, “Statistics for Business: Decision Making and Analysis”, 2<sup>nd</sup> Edition, Pearson.

### **SYLLABUS**

This syllabus is subject to change in the event of extenuating circumstances.

Topic 1 Data description

- Recognizing the type of data
- Using graphs to see the characteristics of data
- Summarizing messy data into neat numbers

Topic 2 Probability

- Probability
- Random variable, distribution
- Discrete random variables: binomial distribution
- Continuous random variables: normal distribution, t distribution

Topic 3 Estimation

- Point estimate
- Sampling distribution
- Confidence intervals

Topic 4 Hypothesis testing

- One sample, statistically significant? Using t test
- Errors of statistical testing: Type I and Type II error
- Two independent samples significantly different? Using t test
- Examining relationships for nominal and ordinal data – Chi-square test

Topic 5 Simple linear regression

- Basic concept
- Checking model assumption
- Testing beta
- Prediction and Estimation

Topic 6 Multiple linear regression basic

## COURSE WEBSITE

<http://canvas.ust.hk>

## OBJECTIVES AND INTENDED LEARNING OUTCOMES

The objective of the course is to introduce the basic and fundamental knowledge of statistics, probability, statistical inference and linear regression. This semester, ISOM 2500 undergoes tremendous change to promote students' interest in statistics. We emphasize on

1. Hands-on experiences on data collecting and analysis through in-class games.
2. Closer connection to real life and business practice through regular class and online class.
3. Concepts and interpretation over computation practice through different formats of evaluation.

## EVALUATION

Your grade in the course is based on:

Quiz 1 (10-March, in lecture, MCQ )	10%
Quiz 2 (07-April, in lecture,MCQ)	20%
Final Exam (MCQ)	50%
Homework	10%
Participation	10%
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Total	100%

A. Quizzes 30% (30 minutes each).

There will be 2 quizzes: Quiz 1 10% and Quiz 2 20%.

Note: No make-up quiz will be provided. You can miss one quiz at most. **Absence from the quiz will not be excused except for medical reasons supported by proper documentation submitted no later than 24 hours after the exam is taken.**

In that case, seventy-five percent of the weight of missed quiz will be counted into the final, meaning that:

- 1) if you miss Quiz 1, then  
Your Final Score

$$= \text{Quiz2} * 20\% + (50\% + 7.5\%) * \text{final} + 10\% * \text{Homework} + \text{Participation}.$$

2) if you miss Quiz 2, then

Your Final Score

$$= \text{Quiz1} * 10\% + (50\% + 15\%) * \text{final} + 10\% * \text{Homework} + \text{Participation}.$$

B. Final Exam 50% (60 minutes, covers hypothesis testing and linear regression).

**If the final exam is missed, you won't pass the course. No make-up final exam will be provided.**

C. Homework assignment 10%. There will be 3 Group HWs.

Note:

1) There should be 4 persons in each group.

Please submit the soft copy of the assignment to us through CANVAS:

For the soft copy, please sign the name on the cover page of assignment (before the deadline); otherwise, you will have no record for HWs. The excuses, i.e. "forget to sign", "Other members submit the HW without notice" etc. are not accepted.

Note: CANVAS will automatically close the submit channel right after the deadline. It is the supporting evidence to your punctual submission of homework. No argument is allowed for those students who claim that they have submitted the homework but CANVAS did not receive it, or there is no **submit** button. Because the **submit** button is gone automatically right after the deadline. You are strongly recommended to test the **submit** button and submit your homework earlier.

2) Free riding is not allowed.

If you don't join the discussion of HWs, other members from your group have the right to submit HW without your permission and without your name on it. In addition, if you have little contribution in the discussion (e.g. Show up without preparation), your group-mates can send an email to notice me.

Note: you can use ZOOM meeting, WeChat or WhatsApp for discussion. Please keep a record just in case you need to file a complaint.

D. Participation through the Curriculum 10%.

Your active participation is crucial for this course. The class format is live interactive on-line mode through ZOOM, different from watching pre-recorded videos. We will have plenty of chances to interact using ZOOM. You can ask questions through

- 1) Raise hand
- 2) Public chat
- 3) Private chat to me (when I address your questions, I will not mention your name.)
- 4) Breakout room to discuss with your classmates

**How to get full mark of performance?**

10% = fully attend 18 out of the of 22 lectures (i.e. around 80% to accommodate the flexibility of class participation for the current situation).

Note: ZOOM on CANVAS markdown all your meeting information automatically, so there is no excuse like "I attended the lecture, but you did not notice me."

## **GRIEVANCE PROCEDURE**

If you disagree with grades that have been assigned to your work, you have the possibility to meet instructors within one week after the grades have been published on the course website. Be specific about what it is that you don't agree with.

## **ACADEMIC INTEGRITY**

Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating of information facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of other groups, or tampering with the academic work of other groups. All exam answers must be your own, and you must not provide any assistance to other students during exams. Current university policy on academic dishonesty is “if a student is discovered cheating however minor the offence, the course grade will appear on the students' record with an X, to show that the grade resulted from cheating.” This X grades stays on the record until graduation. If the student cheats again and “earns” another X grade, the student will be dismissed from the university.

Submit your soft copy of assignment to us on Canvas which will be the supporting evidence of your submission of assignment. Late submission will not be accepted.