

**City University of Hong Kong
Course Syllabus**

**offered by Department of Management Sciences
with effect from Semester A 2022 /23**

Part I Course Overview

Course Title: Business Statistics

Course Code: MS5312

Course Duration: One Semester

Credit Units: 3

Level: P5

Medium of Instruction: English

Medium of Assessment: English

Prerequisites:
(Course Code and Title) Nil

Precursors:
(Course Code and Title) Nil

Equivalent Courses:
(Course Code and Title) Nil

Exclusive Courses:
(Course Code and Title) MS5212 Statistical Methods I

Part II Course Details

1. Course Aims

The aim of this course is to introduce the statistical concepts and methods used in solving real business problems. The curriculum is designed to prepare students to have the necessary statistical training essential to the other courses in the programme. The fundamental ideas of various statistical procedures are presented without resorting to detailed mathematical derivations or proofs. Selected examples from business literature are used extensively to demonstrate the application of these statistical methods to modern business environment.

Course Intended Learning Outcomes (CILOs)

Upon successful completion of this course, students should be able to:

No.	CILOs	Weighting
1.	Discuss the basic assumptions and major characteristics of various statistical techniques such as Estimation, Hypothesis testing, Simple Linear Regression, One-Way Analysis of Variance and Chi-squared test.	2
2.	Apply an appropriate statistical technique to analyze a set of data collected in business situations.	3

Teaching and Learning Activities (TLAs)

(Indicative of likely activities and tasks designed to facilitate students' achievement of the CILOs. Final details will be provided to students in their first week of attendance in this course)

1. Lecture

Concepts and applications of various statistical techniques (such as Estimation, Hypothesis testing, Simple Linear Regression, One-Way Analysis of Variance and Chi-squared) are expounded so that students know how to analyze a set of data collected in business situations in order to aid decision making.

2. Tutorial

Tutorial exercises are assigned to students to train their analytical skills in analyzing a set of data and interpreting findings. These exercises are done at home and fully discussed during tutorials.

Constructive Alignment of CILOs and Teaching and Learning Activities

CILO	TLA 1: Lecture	TLA 2: Tutorial
1	Yes	Yes
2	Yes	Yes

Assessment Tasks/Activities

(Indicative of likely activities and tasks designed to assess how well the students achieve the CILOs. Final details will be provided to students in their first week of attendance in this course)

Written examination (2 hours)	60%
Two mid-term tests, each 20%	40%
Total	100%

Constructive Alignment of CILOs and Assessment Methods

	Written examination (2 hours)	Mid-term test
CILO 1	1	1
2	2	2
Total	60%	40%

(1: Minor focus on the CILO; 2: Main focus on the CILO)

Grading of Student Achievement:

Refer to Grading of Courses in the Academic Regulations for Taught Postgraduate Degrees.

Written Examination

Letter Grade	Grade Point	Grade Definitions	
A+ A A-	4.3 4.0 3.7	Excellent:	Strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior grasp of subject matter; evidence of extensive knowledge base.
B+ B B-	3.3 3.0 2.7	Good:	Evidence of grasp of subject, some evidence of critical capacity and analytic ability; reasonable understanding of issues; evidence of familiarity with literature.
C+ C C-	2.3 2.0 1.7	Adequate:	Understanding of the subject; ability to develop solutions to simple problems in the material.
D	1.0	Marginal:	Sufficient familiarity with the subject matter to enable the student to progress without repeating the course.
F	0.0	Failure:	Little evidence of familiarity with the subject matter; weakness in critical and analytic skills; limited or irrelevant use of literature.

Mid-term Test

Letter Grade	Grade Point	Grade Definitions	
A+ A A-	4.3 4.0 3.7	Excellent:	Strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior grasp of subject matter; evidence of extensive knowledge base.
B+ B B-	3.3 3.0 2.7	Good:	Evidence of grasp of subject, some evidence of critical capacity and analytic ability; reasonable understanding of issues; evidence of familiarity with literature.
C+ C C-	2.3 2.0 1.7	Adequate:	Understanding of the subject; ability to develop solutions to simple problems in the material.
D	1.0	Marginal:	Sufficient familiarity with the subject matter to enable the student to progress without repeating the course.
F	0.0	Failure:	Little evidence of familiarity with the subject matter; weakness in critical and analytic skills; limited or irrelevant use of literature.

Part III

Keyword Syllabus:

1. One Population Case: Estimation

Point estimation and interval estimation of population mean, proportion and variance.

2. One Population Case: Hypothesis Testing

Elements of a statistical test. Type I and Type II error. Test on population mean, proportion and variance. p-Value. Power of a test. Relationship between hypothesis testing and confidence interval estimation.

3. Simple Linear Regression

Least-square estimation.

4. Comparison of Two Populations

Inference concerning two population means, proportions and variances.

5. One-Way Analysis of Variance

Inference concerning more than two population means.

6. Chi-square Test

Goodness of fit test. Normality tests. Inference concerning more than two population proportions.

Recommended Reading:

1. Mendenhall W, Beaver R J & Beaver B M, A Brief Course in Business Statistics, 2/e, Duxbury, 2001.
2. Elliott R J, Learning SAS in the Computer Lab, Duxbury, 1995.
3. Newbold P, Statistics for Business and Economics, 4/e, Prentice Hall, 1995.