Subject Description Form

Subject Code	AMA1501
Subject Title	Introduction to Statistics for Business
Credit Value	3
Level	1
Pre-requisite/ Co-requisite/ Exclusion	Nil
Objectives	This subject aims to: (i) provide students with a variety of basic techniques in understanding and interpreting data; (ii) allow students to develop skills in analyzing scenarios and problems in commerce and industry by applying statistical methods. The emphasis will be on applications of elementary statistical methods to commerce and industry.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: a. use a variety of basic techniques in understanding and interpreting data; b. apply elementary statistical methods in analyzing business scenarios and problems; c. think critically and creatively about the uses and limitations of statistical methods in business; d. use statistical package and interpret the output, appreciate the applications of information technology for statistical analysis in business.
Subject Synopsis/ Indicative Syllabus	**Descriptive Statistics** Presentation of business data in tabular, diagrammatic and graphic forms; misleading presentations. Summary measures of location and spread. **Probability** Concepts of probability. Probability rules. Bayes' Theorem. Random variables and expected values; uses and limitations in decision making. Common probability distributions: Binomial, Poisson and Normal. **Estimation** Simple random samples. Sampling distributions: mean, proportion and

<table>
<tr><td></td><td>differences. Confidence intervals: mean, proportion and differences.

Hypothesis Testing
Hypothesis testing: mean, proportion and differences.

Chi-square Test
Test of goodness of fit. Test of independence.

Relationships between Variables
Exploratory data analysis. Linear relationships: ordinary least squares. Correlation coefficients.
Multiple Regression
Multiple regression equation. Inferences about parameters. Modelling techniques</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>The lectures aim to provide the students with an integrated knowledge required for the understanding and application of statistical concepts and techniques. To develop students' ability for logical thinking and effective communication, tutorial and presentation sessions will be held.</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="4">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td></tr>
<tr><td>1. Assignment and Presentation</td><td>20%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>2. Mid-term Test</td><td>30%</td><td>✓</td><td>✓</td><td>✓</td><td></td></tr>
<tr><td>3. Examination</td><td>50%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr>
<tr><td>Total</td><td>100 %</td><td colspan="4"></td></tr>
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Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:
The subject focuses on knowledge, skill and understanding of <u>Business Statistics</u>, thus, <u>Exam-based assessment</u> is the most appropriate assessment method, including 30% test and 50% examination. Moreover, 20% worth of assignments and presentations are included as a component of continuous</td></tr>
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	assessment so as to keep the students in progress. To pass this subject, students are required to obtain grade D or above in **both** the continuous assessment and the examination components.	
Student Study Effort Expected	Class contact:	
	▪ Lecture	26 Hrs.
	▪ Tutorial and Student Presentation	13 Hrs.
	Other student study effort:	
	▪ Assignments	20 Hrs.
	▪ Self-study	58 Hrs.
	Total student study effort	117 Hrs.
Reading List and References	Study Guide: Introduction to Statistics for Business, Department of Applied Mathematics, The Hong Kong Polytechnic University Reference Books: Aczel, A.D., *Complete Business Statistics*, 7th ed., McGraw-Hill, 2009. Levin, Richard I. and Rubin, David S., *Statistics for Management*, 7th ed., Prentice-Hall, 1998. David S. Moore, George P. McCabe, Bruce A. Craig, *Introduction to the practice of Statistics*, 9th ed., W. H. Freeman and Company, 2017. McClave, J. T., Benson, P. George and Sincich, Terry., *A First Course in Business Statistics*, 8th ed., Prentice Hall, 2001.	