

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	<p>This subject aims to:</p> <ul style="list-style-type: none"> (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	<p>Upon completion of the subject, students will be able to:</p> <ul style="list-style-type: none"> 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	<p>Descriptive Statistics Presentation of business data in tabular, diagrammatic and graphic forms; misleading presentations. Summary measures of location and spread.</p> <p>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.</p> <p>Estimation Simple random samples. Sampling distributions: mean, proportion and differences. Confidence intervals: mean, proportion and differences.</p> <p>Hypothesis Testing Hypothesis testing: mean, proportion and differences.</p> <p>Chi-square Test Test of goodness of fit. Test of independence.</p> <p>Relationships between Variables Exploratory data analysis. Linear relationships: ordinary least squares. Correlation coefficients.</p>

	<p>Multiple Regression Multiple regression equation. Inferences about parameters. Modelling techniques</p>																																						
<p>Teaching/Learning Methodology</p>	<p>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.</p>																																						
<p>Assessment Methods in Alignment with Intended Learning Outcomes</p>	<table border="1"> <thead> <tr> <th rowspan="2">Specific assessment methods/tasks</th> <th rowspan="2">% weighting</th> <th colspan="4">Intended subject learning outcomes to be assessed (Please tick as appropriate)</th> </tr> <tr> <th>a</th> <th>b</th> <th>c</th> <th>d</th> </tr> </thead> <tbody> <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></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p>The subject focuses on knowledge, skill and understanding of Business Statistics, thus, Exam-based assessment 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 assessment so as to keep the students in progress.</p> <p>To pass this subject, students are required to obtain grade D or above in both the continuous assessment and the examination components.</p>					Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)				a	b	c	d	1. Assignment and Presentation	20%	✓	✓	✓	✓	2. Mid-term Test	30%	✓	✓	✓		3. Examination	50%	✓	✓	✓	✓	Total	100 %				
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<p>Student Study Effort Expected</p>	<p>Class contact:</p>																																						
	<ul style="list-style-type: none"> ▪ Lecture 		<p>26 Hrs.</p>																																				
	<ul style="list-style-type: none"> ▪ Tutorial and Student Presentation 		<p>13 Hrs.</p>																																				
	<p>Other student study effort:</p>																																						
	<ul style="list-style-type: none"> ▪ Assignments 		<p>20 Hrs.</p>																																				
	<ul style="list-style-type: none"> ▪ Self-study 		<p>58 Hrs.</p>																																				
	<p>Total student study effort</p>		<p>117 Hrs.</p>																																				

**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.

Moore, David S. and McCabe, G., *Introduction to the practice of Statistics*, 7th ed., W H Freeman, 2012.

McClave, J. T., Benson, P. George and Sincich, Terry., *A First Course in Business Statistics*, 8th ed., Prentice Hall, 2001.