

The Hong Kong Polytechnic University

Subject Description Form

Subject Code	LGT3101
Subject Title	Intermediate Business Statistics
Credit Value	3
Level	3
Normal Duration	1-semester
Pre-requisite	AMA1501 Introduction to Statistics for Business
Objectives	<p>To enable students to use a number of standard inferential techniques, to be aware of the assumptions underlying them, and to be able to interpret the results in a managerial context.</p> <p>To understand the role and limitations of more advanced statistical methods in management.</p> <p>To be able to use a computer for the analysis of data.</p>
Subject Learning Outcomes	<p>On successfully completing this subject, students will be able to:</p> <ol style="list-style-type: none">Have a full understanding of the principles, concepts and techniques in intermediate level business statistics.Understand the basic technical and analytical skills for intermediate level business statistics.Understand the application of intermediate level statistics in a managerial context (rather than the underlying mathematics of them), for management decision-making. <p>Students are expected to be able to demonstrate a range of skills to solve problems in business statistics. These include:</p> <ol style="list-style-type: none">Critical thinking and analytical skills that include the capability to identify assumptions, evaluate statements, detect false logic and formulate problems.Effective problem solving and decision-making using appropriate analytical skills including identifying, formulating and solving problems in business statistics.Numeracy and quantitative skills including the use of models of business statistics.

<p>Subject Synopsis/ Indicative Syllabus</p>	<p>Nonparametric Statistics Sign test, runs test, Mann-Whitney U test, Kriskal-Wallis test, Spearman rank correlation, Kolmogorov-Smirnov Test.</p> <p>Analysis of Variance Underlying statistical models; one and two factors and interactions.</p> <p>Regression Simple linear regression. Multiple regression. Hypothesis tests and confidence intervals for individual parameters. The F test. R squared. Dummy variables. Non-linear regression.</p> <p>Introduction to Multivariate Concepts Underlying concepts and use of techniques, like Multiple Regression Analysis, MANOVA.</p> <p>Use of Computer Use of a computer for analysing statistical data.</p>																																														
<p>Teaching/Learning Methodology</p>	<p>Lectures will be used to present the basic technical material and illustrate its use. Seminars will be used in part for the class to go over exercises. The seminars will also be used for computer work with appropriate statistical software to analyse more complex problems.</p>																																														
<p>Assessment Methods in Alignment with Intended Learning Outcomes</p>	<table border="1" data-bbox="506 1077 1507 1518"> <thead> <tr> <th rowspan="2">Specific assessment methods/tasks</th> <th rowspan="2">% weighting</th> <th colspan="6">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> <th>e</th> <th>f</th> </tr> </thead> <tbody> <tr> <td>Assignments</td> <td>25 %</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>Test</td> <td>25 %</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>Examination</td> <td>50 %</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>Total</td> <td>100 %</td> <td colspan="6"></td> </tr> </tbody> </table> <p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes: The assessment methods include assignments, test and examination. Problems will be set to test the students' performance with respect to the learning outcomes.</p>	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)						a	b	c	d	e	f	Assignments	25 %	✓	✓	✓	✓	✓	✓	Test	25 %	✓	✓	✓	✓	✓	✓	Examination	50 %	✓	✓	✓	✓	✓	✓	Total	100 %						
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Student Study Effort Expected	Class contact:	
	▪ Lectures	26 Hrs.
	▪ Seminars	13 Hrs.
	Other student study effort:	
	▪ Assignments	19 Hrs.
	▪ Revisions	68 Hrs.
	Total student study effort	126 Hrs.
Reading List and References	<p>Levin, R.I. & Rubin, D.S., <i>Statistics for Management</i>, 7th edition, Prentice-Hall.</p> <p>Wonnacott, T.H. and Wonnacott, R.J., <i>Introductory Statistics for Business and Economics</i>, 4th edition, Wiley.</p> <p>Hair, J.F. <i>et al.</i>, <i>Multivariate Data Analysis</i>, 8th edition, Pearson.</p> <p>Levine, D. M. <i>et al.</i>, <i>Statistics for managers using Microsoft Excel</i>, 8th edition, Pearson.</p> <p>Hanke, J.E. and Wichern, D.W., <i>Business Forecasting</i>, 9th edition, Prentice-Hall.</p> <p>McClave, J.T. <i>et al.</i>, <i>Statistics for Business and Economics</i>, 12th edition, Prentice-Hall.</p> <p>Treiman, D.J., <i>Quantitative Data Analysis: Doing Social Research to Test Ideas</i>, 1st edition, Jossey-Bass.</p>	