

The Hong Kong Polytechnic University

Subject Description Form

Subject Code	LGT5101
Subject Title	Statistics for Management
Credit Value	3
Level	5
Normal Duration	1-semester
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	<ul style="list-style-type: none"> ▪ To introduce students to statistics as a tool for data preparation and analysis. ▪ To impart on students the concepts, theories and techniques of a variety of statistical methods. ▪ To develop students' ability and confidence in the use of statistics for preparing and analyzing data to support management decision making. <p>This subject contributes to the following Intended Learning Outcomes for the MSc programme(s):</p> <p>MSc in Global Business and Decision Analysis</p> <ul style="list-style-type: none"> ▪ #2 Apply quantitative methods and emerging analytics tool <p>MSc in Operations Management</p> <p>#2 Develop the specific operations management knowledge</p>
Intended Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> a. Able to use statistics for preparing and analyzing data to support management decision making b. Understand the concepts, theories and techniques of a variety of managerial statistics

<p>Subject Synopsis/ Indicative Syllabus</p>	<p>Data Representation Frequency distribution; histogram; other graphical methods.</p> <p>Statistical Measures Measures of central tendency; measures of variability; measures of shape.</p> <p>Probability Concepts Sample space; simple and compound events; probability laws; random variables.</p> <p>Statistical Distributions Discrete distribution; Continuous distribution; Binomial, Normal and other distributions and their characteristics.</p> <p>Sampling Theory Sampling distributions; central limit theorem.</p> <p>Estimation Point and interval estimates; confidence intervals; significance level.</p> <p>Tests of Hypothesis Null and alternative hypotheses; sample size; type I and type II errors. Inference about a population; Inference about comparing two populations; T-test.</p> <p>Analysis of Variance One-way analysis of variance</p> <p>Linear Regression and Correlation Least squares method; coefficient of correlation.</p> <p>Multiple Regression Applications of multiple regression equation; inferences about parameters.</p>
<p>Teaching/Learning Methodology</p>	<p>Concepts and techniques will be introduced through lectures. Students are required to apply the knowledge and skills to solve various applied statistical problems in the form of exercise and case study. The use of relevant software such as Excel, STATA, and Python will be introduced and encouraged.</p>

Assessment Methods in Alignment with Intended Learning Outcomes	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)				
			a	b			
	Continuous Assessment	50 %	✓	✓			
	Examination	50 %	✓	✓			
	Total	100 %					
	<p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p>Students need to do a group case study, testing whether they know how to apply the theories learnt to some real life situations. Mid-term test and examination are also required to test their understanding and familiarity with the knowledge.</p>						
Student Study Effort Expected	Class contact:						
	▪ Lectures / Tutorials						39 Hrs.
	Other student study effort:						
	▪ Reading and doing exercises						87 Hrs.
	Total student study effort						126 Hrs.

<p>Reading List and References</p>	<p>OpenIntro Statistics 3rd Edition https://www.google.com.hk/?gws_rd=ssl#q=OpenIntro+Statistics+(Third+Edition))</p> <p>Statistics. Penn State Online. https://onlinecourses.science.psu.edu/statprogram/programs)</p> <p>Levine, D.M., Stephan, D.F. and Szabat, K.A., <i>Statistics for Managers Using Microsoft Excel</i>, 9th edition, Pearson, 2020.</p> <p>McClave, J. T., Benson, P. G. and Sincich, T.T., <i>Statistics for Business and Economics</i>, 14th edition, Pearson, 2019.</p> <p>Gerald, K., <i>Managerial Statistics: abbreviated</i>, 9th edition, Australia: South-Western, 2012.</p> <p>Hair, J.F. <i>et al.</i>, <i>Multivariate Data Analysis</i>, 7th edition, Pearson, 2006.</p> <p>Journal of the American Statistical Association</p> <p>Journal of the Royal Statistical Society</p> <p>The Statistician</p>
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