

Subject Description Form

Subject Code	AMA3654
Subject Title	Survey Sampling
Credit Value	3
Level	3
Pre-requisite	Statistics for Finance Analytics (AMA2601) or Introduction to Statistics (AMA2634) or equivalent
Exclusion	AMA264
Objectives	<p>This subject is to introduce to students the basic concepts and methods of survey sampling, including methods of data collection, sampling design, and the analysis of survey data. Survey sampling is an essential market research tool for data analysts or entrepreneurs to better understand their target market and seek the potential for new business. Ample practical examples will be used to illustrate the practices and application of survey sampling in market research and business innovation. This subject also aims to equip students with the latest information technology for data collection, visual presentation, and survey data analysis.</p>
Intended Learning Outcomes	<p>Upon satisfactory completion of the subject, students should be able to:</p> <ol style="list-style-type: none"> master knowledge and techniques in sampling methods and the appropriateness of different sampling designs for estimating population parameters; formulate sampling plans with special reference to survey goals, sampling frames availability, and resource constraints; familiarize with the latest information technology for survey data collection, visual presentation, statistical analysis; design data-driven market research to assess the target markets, explore potential business opportunities, identify problems, and seek innovative solutions; recognize the data-related ethical topics such as data privacy and data validation and the social responsibilities of sample survey professionals.
Subject Synopsis/ Indicative Syllabus	<p><i>Basic concepts of survey sampling</i> Population and sample, need for sample survey, survey design, sampling plan design, methods of data collection: questionnaires, focus groups, interviews, internet survey, etc., sampling and non-sampling errors.</p> <p><i>Sample design, methods and theory</i> Simple random sampling, stratified random sampling, one-stage and two-stage cluster sampling, ratio estimation, sample size calculation, unequal probability sampling, complex surveys, variance estimation in complex surveys, nonresponse</p>

	<p>adjustment.</p> <p><i>Survey sampling in market research</i></p> <p>Market research process: problem identification, hypothesis development, sampling plan design, choice of data collection methods, interpretation and evaluation of business performance, and presentation of findings with the latest information technology; Internet survey.</p> <p><i>Ethics</i></p> <p>Professionalism, responsibilities, obligations, and roles as data analysts / sample survey professionals.</p>								
Teaching/Learning Methodology	The subject will be delivered mainly through lectures and tutorials. The lectures will be conducted to introduce the survey sampling concepts in the syllabus, which are then reinforced by learning activities involving demonstration, tutorial exercise and assignments.								
Assessment Methods in Alignment with Intended Learning Outcomes	Specific assessment methods	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)						
			a	b	c	d	e		
	1. Assignments/ Mini-project	20%	✓	✓	✓	✓			
	2. Tests	20%	✓	✓	✓		✓		
	3. Examination	60%	✓	✓	✓		✓		
	Total	100 %							
<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 <u>Survey Sampling</u>, thus, <u>Exam-based assessment</u> is the most appropriate assessment method, including 20% test and 60% examination. Moreover, 20% worth of assignments / mini-project are included as a component of continuous assessment so as to assess students’ ability in constructing survey sampling models for real world problems and presenting results of survey sampling analyses.</p> <p>Continuous Assessment comprises of assignments and/or mini-project, and tests. A written examination is held at the end of the semester.</p>									
Student Study Effort Expected	Class contact:								
	▪ Lecture							26 Hrs.	
	▪ Tutorial							13 Hrs.	
	Other student study effort:								
	▪ Assignment							26 Hrs.	
	▪ Self-study							40 Hrs.	

	Total student study effort	105 Hrs.
Reading List and References	<p><u>Textbook:</u></p> <p>Lohr, S. L. Sampling: Design and Analysis Cengage Learning 2nd edition 2009</p> <p><u>References:</u></p> <p>Thompson, S.K. Sampling 3rd edition Wiley 2012</p> <p>Census and Statistics Hong Kong Monthly Digest of Hong Kong Dept. Statistics (various years) Government Printer</p> <p>American Statistical Ethical Guidelines for ASA Association Statistical Practice 1999</p> <p>Levy, P.S. & Sampling of Populations: Wiley Lemeshow, S. Methods and Applications 2008 4th edition</p> <p>Lumley, T. Complex Surveys: A Guide to Wiley Analysis Using R 2010</p> <p>Hansen, M.H., Sample Survey Methods and Wiley Hurwitz, W.N. & Theory Vol. I & II 1993 Madow, W.G.</p> <p>International Statistical Declaration of Professional ISI Institute Ethics 1985</p> <p>Babbie, E.R. The Basics of Social Research Cengage Learning 7th edition 2016</p> <p>Gotelli, N.J. & Ellison, A Primer of Ecological Sinaur M.E. Statistics 2013</p> <p>Kumar, V., Leone, R. Marketing Research 13th John Wiley & Sons P., Aaker, D. A., & edition 2018 Day, G. S.</p> <p>Mooi, E., Sarstedt, M., Market Research: The Process, Springer 2017 & Mooi-Reci, I. Data, and Methods Using Stata.</p>	