

## Subject Description Form

<b>Subject Code</b>	AMA264
<b>Subject Title</b>	Survey Sampling
<b>Credit Value</b>	3
<b>Level</b>	2
<b>Pre-requisite</b>	Nil
<b>Objectives</b>	This subject is to introduce the students the basic concepts and methods of survey sampling including methods of data collection, questionnaire design, methods of sample selection, estimation, sampling and non-sampling errors in surveys. Ample practical examples will be used to illustrate the principles and methods with special reference to investment science.
<b>Intended Learning Outcomes</b>	Upon satisfactory completion of the subject, students should be able to: <ul style="list-style-type: none"> <li>a. design sample surveys for investment science;</li> <li>b. master knowledge and techniques in sampling methods;</li> <li>c. formulate sampling plans with special reference to survey goals, sampling frames availability, and resource constraints;</li> <li>d. assess critically the appropriateness of competing sampling plans;</li> <li>e. estimate population parameters;</li> <li>f. conduct sample surveys within the context of socially acceptable professional and ethical practices;</li> <li>g. communicate effectively in a well-structured manner and build up an open-minded attitude;</li> <li>h. recognize the ethical and social responsibility of a sample survey professional.</li> </ul>
<b>Subject Synopsis/ Indicative Syllabus</b>	<p><i>Basic Concepts of survey sampling (3 hours)</i> Population and sample, need for sample survey, methods of data collection, questionnaire design, sampling and non-sampling errors.</p> <p><i>Sample Design, Methods and Theory (21 hours)</i> Simple random sampling, stratified random sampling, double sampling, systematic random sampling, sampling with probability proportional to size, cluster sampling with equal cluster size, systematic sampling, ratio and regression estimation, cluster sampling with unequal cluster size, two-stage and multi-stage sampling.</p> <p><i>Types of Errors and Biases (5 hours)</i> Non-sampling errors, response and non-response errors, measurement and control of errors.</p> <p><i>Current practices (5 hours)</i> General Household Survey, Census, By-census, Household Expenditure Survey.</p>

	<p><i>Ethics (5 hours)</i> Professionalism, responsibilities, obligations, roles.</p>																																																											
<b>Teaching/Learning Methodology</b>	<p>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.</p>																																																											
<b>Assessment Methods in Alignment with Intended Learning Outcomes</b>	<table border="1"> <thead> <tr> <th rowspan="2">Specific assessment methods</th> <th rowspan="2">% weighting</th> <th colspan="8">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> <th>g</th> <th>h</th> </tr> </thead> <tbody> <tr> <td>1. Assignments/ Mini-project</td> <td>20%</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>2. Tests</td> <td>20%</td> <td></td> <td>✓</td> <td></td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td></td> </tr> <tr> <td>3. Examination</td> <td>60%</td> <td>✓</td> <td>✓</td> <td></td> <td>✓</td> <td>✓</td> <td></td> <td>✓</td> <td>✓</td> </tr> <tr> <td>Total</td> <td>100 %</td> <td colspan="8"></td> </tr> </tbody> </table>		Specific assessment methods	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)								a	b	c	d	e	f	g	h	1. Assignments/ Mini-project	20%	✓	✓	✓	✓	✓		✓		2. Tests	20%		✓		✓	✓	✓	✓		3. Examination	60%	✓	✓		✓	✓		✓	✓	Total	100 %								
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<p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes: The subject focuses on knowledge, skill and understanding of <b>Survey Sampling</b>, thus, <b>Exam-based assessment</b> 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. Continuous Assessment comprises of assignments and/or mini-project, and tests. A written examination is held at the end of the semester.</p>																																																												
<b>Student Study Effort Expected</b>	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.																																																										
<b>Reading List and References</b>	<p><u>Textbook:</u> Scheaffer, R.L., Elementary Survey Duxbury Press Menderhall W., &amp; Ott L. Sampling 7<sup>th</sup> edition 2011</p> <p><u>References:</u> Thompson, S.K. Sampling Wiley-Interscience</p>																																																											

	3 <sup>rd</sup> edition	2012
Census and Statistics Dept.	Hong Kong Monthly Digest of Statistics (various years)	Hong Kong Government Printer
American Statistical Association	Ethical Guidelines for Statistical Practice	ASA 1999
Levy, P.S. & Lemeshow, S.	Sampling of Populations: Methods and Applications 4 <sup>th</sup> edition	Wiley 2008
Kish, L.	Survey Sampling 1st edition	Wiley-Interscience 1995
Hansen, M.H., Hurwitz, W.N. & Madow, W.G.	Sample Survey Methods and Theory Vol. I & II	Wiley-Interscience 1993
International Statistical Institute	Declaration of Professional Ethics	ISI 1985
Babbie, E.R.	The Basics of Social Research 5 <sup>th</sup> edition	Wadsworth 2010
Gotelli, N.J. & Ellison, M.E.	A Primer of Ecological Statistics	Sinaur 2013