

## Subject Description Form

<b>Subject Code</b>	AMA4952
<b>Subject Title</b>	Capstone Project
<b>Credit Value</b>	3
<b>Level</b>	4
<b>Pre-requisite</b>	Nil
<b>Objectives</b>	This subject is to foster the students' initiative and capability in applying theoretical principles, in organizing and executing the work and in presenting the methodology, arguments and findings in a well-documented report. It provides the opportunity for students to explore their own capabilities of working independently on some substantial problems.
<b>Intended Learning Outcomes</b>	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> <li>Carry out their own study and learn independently for problem solving and solution seeking;</li> <li>integrate knowledge and techniques in various disciplines to formulate mathematical and statistical models for real-life problems in data science and finance with a critical awareness of the appropriateness of competing models;</li> <li>interpret analysis results and make recommendations for actions based on analysis results;</li> <li>work independently and write well-structured report for analysis results and present analysis results effectively.</li> </ol>
<b>Subject Synopsis/ Indicative Syllabus</b>	<p>There will be weekly seminars in the first few weeks of the semester with topics designed by the lecturer(s). They will cover real-life problems that arise in applications from data science and finance. The lecturer(s) will also introduce some necessary mathematical / statistical tools for tackling those problems.</p> <p>Students are expected to participate actively in classroom discussions to brainstorm on possible topics for their individual final written report.</p> <p>Students have to submit a project proposal in which they identify the theme of study, suggest the plan of collecting data/information and propose the methodology of analyzing problem with justification.</p> <p>The final written report should include problem identification, relevant data, methodology of analysis, solutions, implementation, interpretations, conclusions, and so on. Oral presentation sessions will be arranged for students to report their work and findings.</p> <p>Independent research, critical thinking, and creativity will be encouraged.</p>

Teaching/Learning Methodology	The student should attend the weekly seminar and actively participate in classroom discussions.					
	While the basic knowledge and techniques are learned via various subjects and the seminar presentations, students are required to learn some specific techniques by themselves independently with minimum guidance from the lecturer.					
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	c	d
	1. Class participation	15%		✓	✓	
	2. Project proposal	15%	✓	✓	✓	
	3. Oral presentation	30%	✓	✓	✓	✓
	4. Written report	40%	✓	✓	✓	✓
	Total	100 %				
	Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes: The subject focuses on knowledge, skill and understanding of <b>Capstone Project</b> . Thus, <b>Project-based assessment</b> is the most appropriate assessment method, including 40% written report. Moreover, 30% oral presentation and 15% of class participation scores are included as components of continuous assessment to assess students’ ability in constructing case study models for real world problems and presenting results of the analyses. Finally, there is an additional 15% for the appropriateness of the project proposal.					
Student Study Effort Expected	Class contact:					
	▪ Lecture			26 Hrs.		
	▪ Consultation			13 Hrs.		
	Other student study effort:					
	▪ Self study			96 Hrs.		
	Total student study effort			135 Hrs.		
Reading List and References	To be determined by the lecturer(s).					