

## Subject Description Form

<b>Subject Code</b>	AMA601
<b>Subject Title</b>	Advanced Statistics in Health Care Research
<b>Credit Value</b>	3 (Elective)
<b>Level</b>	6
<b>Pre-requisite / Co-requisite/ Exclusion</b>	Nil
<b>Objectives</b>	This subject aims to introduce basic concepts and statistical modeling techniques in medical and health care research.
<b>Intended Learning Outcomes</b>	Upon completion of the subject, students will be able to:  1. recognize the conceptual and practical framework for commonly used statistical methods for research in Medical and Health Care sciences
<b>Subject Synopsis/ Indicative Syllabus</b>	<p><i>Estimation and Inference</i> Probability distributions, sampling distribution, confidence interval and hypothesis testing</p> <p><i>Multiple Regression</i> Linear regression and linear correlation coefficient, multiple regression and multiple correlation coefficient, model selection</p> <p><i>Binary Variables and Logistic Regression</i> Generalized linear models, dose response models</p> <p><i>Contingency Tables and Log-linear Models</i> Contingency Tables, log-linear models</p>
<b>Teaching/Learning Methodology</b>	Learning outcome 1 will be achieved through lectures, tutorials and interaction between the lecturers and students. The learning outcome will be assessed through in-class exercises and discussions, assignments, tests and final examination.

<b>Assessment Methods in Alignment with Intended Learning Outcomes</b>	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)
			1
	a. Continuous Assessment	50%	✓
	b. Examination	50%	✓
	Total	100 %	
The conceptual and practical framework of statistical modeling for medical and health care science can be assessed through exercises or mini-project.			
<b>Student Study Effort Required</b>	Class contact:		
	▪ Lecture		26 Hrs.
	▪ Tutorial		13 Hrs.
	Other student study effort:		
	▪ Assignment		50 Hrs.
	▪ Self Study		120 Hrs.
	Total student study effort		
<b>Reading List and References</b>	<u>Textbook:</u>		
	Dobson, A.J. & Barnett, A.	An Introduction to Generalized Linear Models 3 <sup>rd</sup> edition	Chapman & Hall 2008
<u>Indicative reading list and references:</u>			
	Agresti, A.	An Introduction to Categorical Data Analysis 2 <sup>nd</sup> edition	Wiley Inter-Science 2007

	Menard, S.	Applied logistic Regression Analysis 2 <sup>nd</sup> edition	Sage 2002
	Jewell, N.P.	Statistics for Epidemiology	Chapman & Hall 2003