Subject Description Form

<table>
<tr><td>Subject Code</td><td>AMA601</td></tr>
<tr><td>Subject Title</td><td>Advanced Statistics in Health Care Research</td></tr>
<tr><td>Credit Value</td><td>3 (Elective)</td></tr>
<tr><td>Level</td><td>6</td></tr>
<tr><td>Pre-requisite / Co-requisite/ Exclusion</td><td>Nil</td></tr>
<tr><td>Objectives</td><td>This subject aims to introduce basic concepts and statistical modeling techniques in medical and health care research.</td></tr>
<tr><td>Intended Learning Outcomes</td><td>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</td></tr>
<tr><td>Subject Synopsis/ Indicative Syllabus</td><td>Estimation and Inference
Method of maximum likelihood, method of least squares, sampling distribution, confidence interval and hypothesis testing

Multiple Regression
Linear regression and linear correlation coefficient, multiple regression and multiple correlation coefficient, model selection

Binary Variables and Logistic Regression
Probability distributions, generalized linear models, dose response models

Contingency Tables and Log-linear Models
Probability distributions, log-linear models</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>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.</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td>Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>1</td></tr>
<tr><td>a. Continuous Assessment</td><td>50%</td><td>✓</td></tr>
<tr><td>b. Examination</td><td>50%</td><td>✓</td></tr>
<tr><td>Total</td><td>100 %</td><td></td></tr>
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The conceptual and practical framework of statistical modeling for medical and health care science can be assessed through exercises or mini-project.
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Student Study Effort Required	Class contact:	
	▪ Lecture	28 Hrs.
	▪ Tutorial	14 Hrs.
	Other student study effort:	
	▪ Assignment	50 Hrs.
	▪ Self Study	120 Hrs.
	Total student study effort	212 Hrs.

Reading List and References

Textbook:

Dobson, A.J. & Barnett, A.	An Introduction to Generalized Linear Models 3rd edition	Chapman & Hall 2008

Indicative reading list and references:

Agresti, A.	An Introduction to Categorical Data Analysis 2nd edition	Wiley Inter-Science 2007
Menard, S.	Applied logistic Regression Analysis 2nd edition	Sage 2001
Jewell, N.P.	Statistics for Epidemiology 1st edition	Chapman & Hall 2003