Subject Description Form

Subject Code	AMA601
Subject Title	Advanced Statistics in Health Care Research
Credit Value	3 (Elective)
Level	6
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	This subject aims to introduce basic concepts and statistical modeling techniques in medical and health care research.
Intended Learning Outcomes	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
Subject Synopsis/ Indicative Syllabus	*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
Teaching/Learning Methodology	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.

Assessment Methods in Alignment with Intended Learning Outcomes

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.

Student Study Effort Required

Class contact:	
▪ Lecture	26 Hrs.
▪ Tutorial	13 Hrs.
Other student study effort:	
▪ Assignment	50 Hrs.
▪ Self Study	120 Hrs.
Total student study effort	209 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 2002
	Jewell, N.P.	Statistics for Epidemiology	Chapman & Hall 2003