Subject Description Form

Subject Code	AMA2432
Subject Title	Introduction to Statistics
Credit Value	2
Level	2
Pre-requisite / Co-requisite/ Exclusion	Nil
Objectives	The subject aims to provide students with some basic knowledge and skills of elementary statistics. The emphasis will be on application of statistical methods for solving practical problems.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: 1. apply statistical reasoning to describe and analyze essential features of data sets and different problems; 2. extend their knowledge of statistical techniques and adapt inferential procedures to different situations; 3. develop and extrapolate statistical concepts in synthesizing and solving problems; 4. search for useful information and use statistical tables in solving statistical problems; 5. demonstrate the abilities of logical and analytical thinking.
Subject Synopsis/ Indicative Syllabus	*Data Presentation:* (3 hours) Frequency distributions and graphical representation; mean, mode, median, quartiles, variance and standard deviation; data analysis and interpretation. *Statistical Distributions and Hypotheses Testing:* (18 hours) Introduction to probability, discrete and continuous random variables; the binomial , Poisson and normal distributions; sampling distributions, the Z-, t- and χ^2 – distributions; hypotheses testing using Z-, t- and χ^2 – tests. *Regression and Correlation:* (7 hours) Linear regression and least-squares method; correlation between two variables, correlation coefficient and its interpretation, confidence interval and test of significance; examples and demonstration of computer software.
Teaching/Learning Methodology	The subject will be delivered mainly through lectures and tutorials. The lectures aims at providing students with an integrated knowledge required for the understanding and application of mathematical and statistical concepts and techniques. Tutorials will mainly be used to develop students' problem solving ability.

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	2	3	4	5
a. Continuous Assessment	50%	✓			✓	✓
b. Examination	50%	✓	✓	✓	✓	✓
Total	100 %					

Continuous Assessment comprises of assignments and a mid-term test. A final examination is held at the end of the semester.

Questions used in assignments, mid-term test and examination are used to assess the student's level of understanding of the basic concepts and their ability to use statistical methods for solving practical problems.

To pass this subject, students are required to obtain Grade D or above in **both** the Continuous Assessment and the Examination components.

Student Study Effort Required

Class contact:	
▪ Lecture	22 Hrs.
▪ Tutorial	6 Hrs.
Other student study effort:	
▪ Assignment	20 Hrs.
▪ Self-study	27 Hrs.
Total student study effort	80 Hrs.

Reading List and References

Textbook:

Ross, S.	A First Course in Probability 8th edition	Prentice Hall 2009

References:

Mendenhall, W. & Sincich, T.	Statistics for Engineering and the Sciences 5th edition	Prentice-Hall 2006
Ross, S.M.	Introduction to Probability and Statistics for Engineers and Scientists 4th edition	Academic Press 2009