Subject Code: AMA1191
Level: 1
Contact Hours: Lect: 28 Tut: 14
Student Effort Hours: 120
Assessment Method: Examination 60% Coursework 40%
Credit Value: 3
Pre-requisites: Nil
Co-requisites: Nil
Exclusions: Nil
Subject Leader/Lecturer/Dept.: (AMA)

Learning Outcomes:
The subject aims to introduce students to some basic skills of higher mathematics. The emphasis will be on application of mathematical methods to solving practical problems.

Upon satisfactory completion of the subject, students are expected to be able to:
(i) apply mathematical reasoning to analyse essential features of different problems;
(ii) extend their knowledge of mathematical techniques and adapt known solutions to different situations;
(iii) undertake the formulation of mathematical problems through continuous self-learning.

Syllabus Content:
Foundation Mathematics:
Basic algebra: Mathematical Induction; Binomial Theorem; Inequalities.
Functions and their inverses: Polynomials, remainder theorem, rational functions, partial fractions, exponential and logarithmic functions, trigonometric functions.
Complex numbers: Basic operations; polar form; De Moivre’s Theorem.

Linear Algebra:
Matrices and systems of linear equations; elementary row operations, nonsingular matrices, determinants.

Assessment (assessment of student performance resulting from learning tasks):
Continuous Assessment 40%
Examination 60%
Total 100%

To ensure that students learn and reflect continuously, Continuous Assessment is an important element and students are required to obtain Grade D or above in both the Continuous Assessment and the Examination components. The continuous assessment comprises of assignments, in-class quizzes and tests. The assignments are used to assist the students to reflect and review on their progress. The end-of-semester examination is used to assess the knowledge acquired by the students and their ability to apply and extend such knowledge.

Reading List:
Textbooks and Reference Books: