COURSE OUTLINE DBM1013

(30 Lecture: 15 Tutorial)

DEPARTMENT OF MATHEMATICS, SCIENCE AND COMPUTER
COURSE : DBM1013 ENGINEERING MATHEMATICS 1
CREDIT(S) : 3
PRE REQUISITE(S) : NONE

1.0 BASIC ALGEBRA

This topic introduces basic algebraic concept and its use in solving linear and quadratic equations. This topic also discusses about fraction including partial fraction.

2.0 TRIGONOMETRY

This topic explains the fundamental concept of trigonometric functions particularly the six trigonometric ratios of special angles and simple trigonometric basic identities. The topic also explains about trigonometric identities, sine and cosine rules. Skills using trigonometric identities, sine and cosine rules to solve simple trigonometric equations are discussed.

3.0 COMPLEX NUMBER

This topic discusses the difference between real numbers and imaginary numbers. Basic operation on complex numbers is also explained. This topic also shows the representation of complex numbers in the form of Argand's diagrams, polar and exponential. Basic operation in polar form is also discussed.

4.0 MATRICES

This topic introduces the type and characteristics of matrices up to 3x3 matrix. This topic also explains the operation involving matrices such as addition, subtraction and multiplication of matrices. The inverse matrix method and Cramer's Rule is also explain to solve simultaneous equation up to three variable.

5.0 VECTOR AND SCALAR

This topic explains the basic operations of vector and scalar quantities including their use in solving problems. This topic also explains the method for determining angle between two vectors as well as the characteristics of triple vector and scalar products.

ASSESSMENT

The course assessment comprises two components, namely:

i. Coursework Assessment (CA) – 60%

Coursework assessments that measures knowledge, practical skills and generic skills are carried out in the form of continuous assessment. Coursework assessment total score comprises the knowledge and practical marks ONLY. It does not include the mark of generic skills.

ii. Final Examination Assessment (FE) – 40%

Final examination is carried out at the end of the semester.

ASSESSMENT SPECIFICATION TABLE

COURSE LEARNING OUTCOMES (CLO)	TOPICS					ASSESSMENT TASKS FOR COURSEWORK			
	1	2	3	4	5	Quiz	Test	Tutorial Exercise	Assignment
						*(2) 10%	*(1) 15%	*(4) 20%	*(2) 15%
1. Identify mathematical methods in solving the mathematical problems. (C2, LD1)	●		●			√			
		●					√		
2. Solve the mathematical problems by using appropriate techniques and solutions. (C3, LD1)		●		●					√
3. Practice mathematical knowledge and skills in different mathematics problem. (C3, LD1)	●	●	●		●			√	