	Teaching Plan FAKULTI KEJURUTERAAN ELEKTRIK UNIVERSITI TEKNIKAL MALAYSIA MELAKA

ELEMENTARY MATHEMATICS		
DACS 1212	**SEMESTER 1**	**SESSION 2008/2009**

DACS 1212 ELEMENTARY MATHEMATICS (2, 2, 1)

Type of Subject: K

1.0 Objectives
After completing this subject, students should be able:
1. to explain the concept of basic mathematics calculations.
2. to use the knowledge of basic mathematics to enhance their advanced mathematics such as Calculus, Engineering Mathematics and Differential Equation.
3. to apply the knowledge of mathematics in physical and engineering field.

2.0 Synopsis

This subject consists of 7 chapters: Real Number System, Complex Numbers, Matrices, Geometric Coordinates, Functions and Graph, Trigonometry and Polynomials.

3.0 References

[1] Robert Blitzer, Algebra & Trigonometry, Prentice Hall, 2005
[2] Micheal Sullivan and Micheal Sullivan III, Precalculus, Prentice Hall, 1998
[3] Gerald L. Bradley and Karl J. Smith, Calculus, Prentice Hall,1999.
[4] Micheal Sullivan, Brief Calculus An Applied Approach, John Wiley & Sons, 2000.

4.0 Course Implementation

i) Lecture
   - 2 hours per week for 9 weeks and 1 hour per week for 4 weeks (Total = 22 hours)

ii) Tutorial
   - 1 hour per week for 12 weeks (Total = 12 hours)

5.0 Course Evaluations

Assignment	10%
Quizzes (2x)	15%
Tutorial	10%
Test	25%
Final Exam	40%
Total	100%

6.0 Method of Assessment

Component	Knowledge	Competency	Attitude	Communication
Test/Quizzes	√	√	√	√
Assignment	√	√	√	
Tutorials	√	√	√	√

7.0 Weekly Plan

WEEK	SESSION	CONTENTS	REMARK
1	Lecture 1	**CHAPTER 1: REAL NUMBER SYSTEM** Real Numbers, Number Line, Indices, and Surd	1 hour lecture
2	Lecture 2	**CHAPTER 1: REAL NUMBER SYSTEM** Logarithms **CHAPTER 2: COMPLEX NUMBERS** Definition, Operation on Complex Numbers, Argand Diagram, and Modulus and Argument	2 hours lecture
	Tutorial 1	Topic related to lecture 1	
3	Lecture 3	**CHAPTER 2: COMPLEX NUMBERS** Polar Representation of Complex Numbers, De Moivre's Theorem, Euler's Formula	2 hours lecture Get Assignment question
	Tutorial 2	Topic related to lecture 2	Quiz 1(5%)
4	Lecture 4	**CHAPTER 3: MATRICES** Definition, Operation on Matrix, Determinant, Adjoint Matrix	2 hours lecture
	Tutorial 3	Topic related to lecture 3	
5	Lecture 5	**CHAPTER 3: MATRICES** Inverse Matrix, A Linear System of Matrix Operation	1 hour lecture
	Tutorial 4	Topic related to lecture 4	Quiz 2 (10%)
6	Lecture 6	**CHAPTER 4: GEOMETRIC COORDINATES** Distance and Midpoint, Intercept, Equation of a Line, Parallel and Perpendicular	2 hours lecture

	Tutorial 5	Topic related to lecture 5	
7	Lecture 7	**CHAPTER 5: FUNCTIONS AND GRAPH** Relation and Function, Graph of Function, Transformations of Function, Domain and Range, Composite Function	2 hours lecture
	Tutorial 6	Topic related to lecture 6	
8	Lecture 8	**CHAPTER 5: FUNCTIONS AND GRAPH** Inverse Function, Inverse for Composite Function, Graphical Illustration	2 hours lecture
	Tutorial 7	Topic related to lecture 7	Test (25%)
9	Lecture 9	**CHAPTER 6: TRIGONOMETRY** Definition, The Degree of an Angle, Applications on Trigonometry, Trigonometric Identities	2 hours lecture Submit Assignment (10%)
	Tutorial 8	Topic related to lecture 8	
10	Lecture 10	**CHAPTER 6: TRIGONOMETRY** Distance Formula	1 hour lecture
	Tutorial 9	Topic related to lecture 9	
11	Lecture 11	**CHAPTER 7: POLYNOMIALS** Definition, Operations on Polynomials, Long Division	2 hours lecture
	Tutorial 10	Topic related to lecture 10	
12	Lecture 12	**CHAPTER 7: POLYNOMIALS** Synthetic Division, Factor Theorem, Root and Zeros Polynomials	1 hours lecture
13	Lecture 13	**CHAPTER 7: POLYNOMIALS** Partial Fractions, Linear factor in Denominator, Quadratic factor in Denominator	2 hours lecture
	Tutorial 11	Topic related to lecture 11 and lecture 12	
14	Lecture 14	**REVISION**	
	Tutorial 12	Topic related to lecture 13	
15-17		**REVISION WEEK**	
18		**FINAL EXAMINATION**	