MULTIMEDIA UNIVERSITY®

COURSE INFORMATION

1 .	**Name of Course**	Mathematical Techniques 1	
2 .	**Course Code**	DIM5058	
3 .	**Type of Course** **(e.g. : Core, major, elective etc.)**	Core/Major Diploma in Information Technology	
4 .	**Synopsis**	This subject will expose students to basic mathematics concepts. Students will have the ability of applying the concepts in formulating and problem solving in ICT related area.	
5 .	**Version** **(State the date of theSenate's approval - previous and the current approval date)**	Previous: Senate 176 (March 2015) New version : ADC Oct 2017 Special Senate 93 Nov 2017	
6 .	**Name(s) of Academic Staff**	Tan Sin Yin, Nurainiah Abu Hassan, **Suraya Md Suyod**, Ikha Fadzila Md Idris, **Mar Syazana Maslin**, Tan Chun Fui, Nabil Abas, Norizzati Salleh, Farah Izzati Yussoff	
7 .	**Semester and Year Offered**	Trimester 1, Year 1	
8 .	**Credit Value**	4	
9 .	**Pre-Requisite**	None	
10 .	**Objective of the course in the programme:**		
	To provide basic mathematics background for students pursuing information technology courses.		
11 .	**Justification for including the course in the programme:**		
	This subject will expose students to basic mathematics concepts. Students will have the ability of applying the concepts in formulating and problem solving in ICT related area.		
12 .	**Course Learning Outcomes (CLO)**	**Domain**	**Level**
	CLO1: Apply the basic knowledge of real numbers properties to solve the problem in discipline of algebra.	Cognitive	3
	CLO2: Illustrate various types of function through graphing method.	Cognitive	2
	CLO3: Work collaboratively among team members in performing group task related to algebra.	Affective	2

13 . **Mapping of the Course Learning Outcomes to the Programme Learning Outcomes, Teaching Methods and Assessment:**

Course Learning Outcomes (CLO) (Must tally with CLOs in item 12)	Programme Learning Outcomes (PLO)									Teaching Methods	Assessment Method
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9		
CLO1						✓				Lecture, Tutorial	Final, Quiz, Test, Assignment
CLO2	✓									Lecture, Tutorial	Final, Quiz, Test
CLO3					✓					Lecture, Tutorial, Activities	Assignment
Total	**1**				**1**	**1**				*Indicate the relevancy between the CLO and PLO by ticking " ✓" the appropriate relevant box (This description must be read together with standards 2.1.2, 2.2.1, and 2.2.2 in Area 2 – pages 16 & 18 of COPPA 2.0)*	

14 . **Transferable Skills:**

Teamwork
Problem Solving

15 . **Distribution of Student Learning Time (SLT)**

	Course Content Outline	**CLO	Teaching and Learning Activities – Guided Learning (F2F)* *L	*T	*P	*O	Guided Learning (NF2F)*	Independent Learning (NF2F)*	Total SLT
1	**Fundamental Concept of Algebra** Real numbers; Exponent; Radicals; Polynomials	**1**	2	2		1		5	10
2	**Equations and Inequalities** Equations: Solving quadratic equations; Inequalities: linear, quadratic and polynomial inequalities; Equation and Inequalities involving absolute value.	**1**	7	2		1		10	20
3	**Basic Functions** Operation on functions; Composite functions; Inverse of functions.	**1**	3	1				4	8
4	**Polynomial and Rational Functions** Quadratic functions; Polynomial functions; Rational functions; Graph of functions.	**1,2**	3	1				4	8
5	**Trigonometric Functions** Angles and their measures; Right Triangle Trigonometry; Trigonometric functions.	**1**	4	1				5	10
6	**Graphs of Trigonometric Functions** Graphs of Sine, Cosine and Tangent functions.	**1,2**	1	1				2	4
7	**Matrices** Matrix operations: addition, subtraction, scalar multiplication, matrix multiplication; Transpose matrix; Determinant of matrix (2x2 and 3x3). Inverse matrix (2x2 and 3x3). Solving system linear equation by using Cramer's Rule.	**1,3**	8	3		2		13	26
8	**Sequences and Series** Series; Sequences: Arithmetic, Geometric; Arithmetic mean; Finite and Indefinite Geometric progression; Geometric mean; Binomial theorem.	**1**	8	2		2		12	24
								Total SLT	**110**

SUMMATIVE ASSESSMENT

1. Continuous Assessment	**Percentage %**	**Total SLT**
Quiz	10%	6
Test	20%	12
Assignments	20%	12
	Total SLT for Continuous Assessment	**30**

2. Final Assessment	**Percentage %**	**Total SLT**	
		F2F	**ILT**
Final Exam		2	18
	Total SLT for Final Assessment (F2F + NF2F)	**20**	
Grand Total	**50%**	**160**	

****Indicate the CLO based on the CLO's numbering in Item 12.**
***L= Lecture, *T= Tutorial, *P= Practical, *O= Others, F2F*= Face to Face, NF2F*= Non Face to Face**

16 . **Identify Special Requirement to Deliver the Course (e.g., software, nursery, computer lab, simulation room):**

NA

17 . **Main References:**

Robert Blitzer (2014), Algebra and Trigonometry (5th ed.), Pearson.

18 . **Additional References:**

1.Beecher, Judith A., et al, (2016), Algebra and Trigonometry (5th ed.), Pearson
2.Ernest F.H.JR, Richard. S.P, Richard J.W, Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences, 13th ed., Pearson, 2011.

Note:

Cells shaded light grey contain formulas / fixed values. Edit these formulas only if needed.