MULTIMEDIA UNIVERSITY®

Recall the fundamental concepts of algebra.

COURSE INFORMATION

1 .	**Name of Course**	Mathematics I
2 .	**Course Code**	PMT0101
3 .	**Type of Course** (e.g. : Core, major, elective etc.)	Core
4 .	**Synopsis**	The subject aims to recall the fundamental concept of algebra and functions and to introduce the basic concept of coordinate geometry.
5 .	**Version** (State the date of theSenate's approval - previous and the current approval date)	Current: January 2018 Previous: September 2015
6 .	**Name(s) of Academic Staff**	Dr. Ng Boon Yian Juliza Binti Mohd Johar Ng Sew Lai
7 .	**Semester and Year Offered**	Trimester 1
8 .	**Credit Value**	4
9 .	**Pre-Requisite**	NIL

10 . **Objective of the course in the programme:**

To equip students with basic knowledge and fundamental principles of Mathematics for IT students.

11 . **Justification for including the course in the programme:**

To provide students with sound understanding of basic mathematical concepts.

12 . **Course Learning Outcomes (CLO)**

	Domain	Level
CLO1: Recall the fundamental concepts of algebra.	Cognitive	1
CLO2: Solve problems related to functions and their graphs.	Cognitive	3
CLO3: Solve coordinate geometry problems.	Cognitive	3

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	PLO10	PLO11	PLO12		
CLO1	✓												Lecture/Tutorial	Quizzes/Tests/Final Exam
CLO2	✓					✓							Lecture/Tutorial	Quizzes/Tests/Final Exam
CLO3	✓					✓							Lecture/Tutorial	Quizzes/Tests/Final Exam
Total	**3**					**2**							*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:**

Transferable Skill : Problem Solving
How it is developed : Discussions and Applications to real world problems.
Assessment: Exercises/Tutorial Questions/Tests/Final Exam

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	**Fundamentals of Algebra** Introduction to number system (real number and complex number). Polynomials. Rational expressions. Exponents and radicals.	**1**	9	4			3	8.5	24.5
2	**Equations and Inequalities** Equations and inequalities for polynomials. Equations and inequalities involving absolute values. Radical equations	**1**	9	6				9.5	24.5
3	**Functions** Relations and functions. Domain and range. Graphs of functions. Transformations of functions. Combining functions. One-to-one functions and their inverses.	**2**	6	2			3	5	16
4	**Polynomials and rational Functions** Quadratics Functions. Polynomial functionsand their graphs. Factoring and dividing polynomials. Remainder theorem and factor theorem. Rational functions.	**2**	6	5				7	18
5	**Exponential and Logarithmic Functions.** Exponential functions. The natural exponential function. Logarithmic functions. Laws of logarithms. Exponential and logarithmic equations.	**2**	4	1			1.5	3.5	10
6	**Coordinate Geometry** Equations and graphs of 2D rectangular coordinates system. Distance and midpoint formulas. Division of line segments. Areas of polygons. Equations of straight lines, parallel and perpendicular lines. Line of best fit. Converting non-linear equations into linear form. Locus problems.	**3**	8	3			3	7	21
								Total SLT	**114**

SUMMATIVE ASSESSMENT

1. Continuous Assessment	Percentage %	Total SLT
Quizzes	20%	12
Tests	30%	12

	Total SLT for Continuous Assessment		**24**	
	2. Final Assessment	**Percentage %**	**Total SLT**	
			F2F	**ILT**
	Final Exam	50%	2	20
	Total SLT for Final Assessment (F2F + NF2F)		**22**	
	Grand Total	**100%**	**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):**

17 . **Main References:**

Steward, J., Redlin, L., & Watson, S. Precalculus: Mathematics for Calculus,
Cengage Learning. (5th ed, 2009), (6th ed, 2012), or (7th ed, 2016)

18 . **Additional References:**

Blitzer, R. (2007). Algebra and Trigonometry (3rd Ed). Pearson Education.
Sullivan, M. (2008). Algebra and Trigonometry (8th Ed). Pearson Education.
Dugopolski, M. (2007). College Algebra and Trigonometry (4th Ed). Boston: Pearson Addison-Wesley.

Note:

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