MULTIMEDIA UNIVERSITY®

COURSE INFORMATION

1.	**Name of Course**	Mathematics II
2.	**Course Code**	PMT0201
3.	**Type of Course** (e.g. : Core, major, elective etc.)	Core
4.	**Synopsis**	The subject aims to introduce students to elementary trigonometry and concept of limit, and building on these, to the basic concepts and applications of differentiation and integration.
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**	Pee Chih Yang Juliza Mohd Johar Ng Sew Lai Foo Lee Kien
7.	**Semester and Year Offered**	Trimester 2
8.	**Credit Value**	4
9.	**Pre-Requisite**	Mathematics I
10.	**Objective of the course in the programme:** To provide students with a sound understanding of the basic mathematical concepts.	
11.	**Justification for including the course in the programme:**	

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

		Domain	Level
CLO1:	Solve problems related to circles, trigonometric functions and triangles.	Cognitive	3
CLO2:	Solve problems related to trigonometric identities, trigonometric equations and complex numbers in polar form.	Cognitive	3
CLO3:	Solve problems related to limits and continuity.	Cognitive	3
CLO4:	Solve problems related to differentiation and integration.	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
CLO4	✓					✓							Lecture/ Tutorial	Quizzes/ Tests/ Final Exam
Total	**4**					**4**							*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: Discussion/ Practices of various application of basic mathematics in real world problems.
Assessment: Tutorial Exercises/ Quizzes/ 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	**Trigonometry** Angles and their measures. Lengths of arcs and areas of sectors. Trigonometric functions and their graphs. Law of Sines and Law of Cosines. Areas of triangles.	**1**	8	4			6.5	7.5	26
2	**Analytic Trigonometry and Complex Numbers.** Trigonometric identities and equations. Polar form of complex numbers. De Moivre's Theorem.	**2**	8	6				9	23
3	**Limits and Continuity** Finding limits numerically and graphically. The limit of a function. Calculating limits using the limit laws. One-sided Limits. Continuity of functions.	**3**	6	4				6	16
4	**Derivatives** Concept of the slope of a curve. Differentiability. Derivative as a function. Differentiation rules. The chain rule. Higher order derivatives. Minimum and maximum values. Motion along a straight line.	**4**	9	6				9.5	24.5
5	**Integrals** Indefinite and definite integrals. Fundamental Theorem of Calculus. Techniques of integration. Areas under curves. Volumes of solids of revolution.	**4**	8	4			5	7.5	24.5
								Total SLT	**114**

SUMMATIVE ASSESSMENT

1. Continuous Assessment	**Percentage %**	**Total SLT**
Quizzes	20%	12
Mid term Test	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:**

18 . **Additional References:**

Stewart, J. (2014). Calculus (8th ed.). Brooks/Cole.
Stewart, J. (2012). Precalculus (6th ed.). Brooks/Cole.
George B. Thomas, Jr., Maurice D. Weir, Joel Hass and Frank R. Giordano. (2009). Thomas' Calculus (12th ed.). Addison-Wesley Publishing Company.
Blitzer, R. (2007). Algebra and Trigonometry (3rd ed). Pearson Education.
Sullivan, M. (2008). Algebra and Trigonometry (8th ed). Pearson.

Note:

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