SINGAPORE POLYTECHNIC
SCHOOL OF MATHEMATICS & SCIENCE

Course Information

Module : Engineering Mathematics I/ Engineering Mathematics
Course : DASE/DCEP/DCPE/DEB/DEEE/DES/DESM/DARE/ DBEN/DME/DMRO/ DMR/DCEB/DAPC/DCHE/DFST/DPCS/ 1FT
Session : 2020/2021 Semester 1 L : T : P : 1 (online) : 3 : 0

Synopsis

This module is designed to equip students with the necessary mathematical knowledge and skills to handle problems encountered in their course of studies. It also serves as a foundation for more advanced mathematics in the second year. Among the topics covered are Determinants, Matrices, Complex numbers and Calculus.

Means of Assessment

ICA : 25 % (online participation, tutorial, assignment, activity, LearningAnts,Quizz
TST : 25 % (Mid-Semester Test)
EXM : 50 % (Examination)

Important Dates:

MST 7^{th} week
Examination $19^{th} – 20^{th}$ week

Reference Books

1. Technical mathematics with calculus / Paul A. Calter, Michael A. Calter. Hoboken, NJ: Wiley, c2007.
2. Engineering mathematics: a foundation for electronic, electrical, communications and systems engineers / Anthony Croft, Robert Davison, Martin Hargreaves. Harlow, England: Pearson Education Ltd., 2001.

Lecturers' Information

Please refer to Bb for detailed information.

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Teaching Schedule Semester 1

Week # (of 18)	Topics	Tutorial	Quiz
1	Chapter 1: Matrices & Determinants	Tutorial 1	*NIL*
2	Chapter 1: Matrices & Determinants	Tutorial 1	*Online*
3	Chapter 2: Complex Numbers (Rectangular Form)	Tutorial 2	*Online*
4	Chapter 2: Complex Numbers (Polar Form)	Tutorial 2	*Online*
5	Chapter 2 Complex Numbers (Exponential Form)	Tutorial 2	Paper
6	Revision for MST		
7	**Mid-Semester Test (25%)** → Chapters 1 to 2		
8 – 9	**Term Break** (2 weeks)		
10	Chapter 3: Determination of Law	Tutorial 3	Paper
11	Chapter 4: Differentiation of Logarithmic & Exponential Functions & Inverse Trigonometric Functions	Tutorial 4	*Online*
12	Chapter 5: Higher Order Derivatives & Implicit Differentiation	Tutorial 5	*Online*
13	Chapter 6: Applications of Derivatives	Tutorial 6	Paper
14	**Term Break** (1 week)		
15	Chapter 6: Applications of Derivatives (*Home-Based Learning*)	Tutorial 6	*Online*
16	Chapter 7: Integration	Tutorial 7	*Online*
17	Chapter 8: Definite Integrals	Tutorial 8	Paper
18	Revision for Exam		
19-20	Examination		