BA123 Mathematics I

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laboratory	
None	1	1	2	2	0	3

COURSE AIM

Introduce students to differentiation, trigonometric, inverse trigonometric, algorithmic, exponential and hyperbolic functions, as well as parametric, implicit and partial differentiation. Also, provide students with a general overview of limits, Taylor's Also, provide students with a general overview of limits, Taylor's and Maclaurin's expansions, curve sketching and conic sections.

COURSE WEEKLY CONTENTS

1 Functions – Graphs of rational functions
2 Inverse functions – Transformations of functions
3 The Derivative – Basic rules of differentiation – The Chain Rule
4 Trigonometric functions and their derivatives
5 Inverse trigonometric functions and their derivatives – Implicit differentiation
6 Exponential and logarithmic functions and their derivatives
7 Hyperbolic functions and their derivatives + Midterm Exam
8 Inverse hyperbolic functions and their derivatives
9 L'Hopital's rule
10 Partial derivatives
11 Taylor's and Maclaurin's expansion
12 Conic sections and 12th week assessment
13 Conic sections
14 Antiderivatives – The Fundamental Theorem of Calculus
15 Final revision

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	**20 Midterm**	← 10 MARKS To be freely distributed among possible assessments →					**30**
8 to 12	← 20 MARKS →						**20**
13 to 15	← 10 MARKS →						**10**
16 or 17	**40 Final**						**40**
Total	**Exams**	**Assign.**	**Quizzes**	**Reports**	**Present.**	**Lab.**	100

REFERENCES

Textbook Physics for Scientists and Engineers with Modern Physics, Raymond A. Serway, Cengage Learning; 10th Edition, 2018

Other