



Course Outlines

Course Details:

Course Code : MAT 125 Credit hours: 3.0
Course Title : Integral Calculus & Vector Analysis
Program : CSE/CSIT
Semester : Summer - 2016
Course Teacher : Bristee Saha
Lecturer, Dept. of CSE/CSIT

Course Assessment:

The assessment components for evaluation of students are as follows:

Item/Activity	Marks (%)
Work Sheet (including class attendance and class tests)	25%
Assignment/ Presentation	10%
Mid-Term Test	25%
Final Examination	40%
Total	100%

Course Contents:

Lectures	Contents (Each lecture will be 1.5 hours duration)
Lecture-1	Methods of substitution
Lecture-2	Integration by parts
Lecture -3	Integration by parts
Lecture -4	Integration of special trigonometric functions
Lecture -5	Integration of rational functions
	Assignment/Presentation
Lecture -6	Fundamental Theorem Calculus
Lecture -7	General properties of definite integrals
Lecture -8	Simple definite integrals and reduction formula
	Class Test
Lecture -9	Beta & Gamma Function
Lecture -10	Length and areas of plane curves
Lecture -11	Volumes of solids of revolution
Lecture -12	Surface-areas of solids of revolution
	Class Test

	Mid-Term
Lecture -13	Concept of vector and scalar quantities and variables
Lecture -14	Vector addition and subtraction
Lecture -15	Multiplication of vector by a scalar and vector products
	Assignment/Presentation
Lecture -16	Vector triple products
Lecture -17	Some of vector algebra in Computer Science
Lecture -18	Vector differentiation
Lecture -19	Vector differentiation
	Class Test
Lecture -20	Difference derivative: Gradient, Divergence
Lecture -21	Difference derivative: Curl
Lecture -22	Green's Theorem, Gauss's Theorem
Lecture -23	Stoke's theorem
Lecture -24	Overview
	Class Test
	Final Examination

Textbooks:	<ol style="list-style-type: none"> 1. Integral calculus B. C. Das B. N. Mukherjee 2. Vector Analysis Seymour Lipschutz 3. A Text Book on Co-Ordinate Geometry with Vector Analysis Rahman & Bhattacharjee
-------------------	--