

A. Objectives

What is the main purpose for this course?

The main purpose for this course is to introduce:

1. The concepts of definite and indefinite integrals.
2. Methods of integration.
3. Some applications of integral calculus.
4. Polar coordinates.
5. Basic Multivariable Calculus.
6. Elementary Linear Algebra.

B. Course Description

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact Hours
Algebra of complex numbers, solving quadratic equations, definition and derivative of exponential and logarithm functions.	1	3
Indefinite integrals and definite Integrals, Fundamental Theorem of Calculus.	2	6
Integrals of exponential and logarithmic functions	1	3
Different sorts of techniques of integrations.	4	12
Applications of integrations. Particularly Area and volume.	1	3
Improper integrals and L'Hospital's Rule.	1	3
Polar coordinates. Parametric Equations for the Plane Curves.	2	6
Linear Systems, Matrix Operations, Inverse of matrices, Points and Vectors in Higher Dimensions	2	6
Basic Multivariable Calculus	1	3