

FIRST YEAR

Mathematics -II	E 102
Prerequisite :E101	(2-2-1-0)

First-Order Differential Equations: Solutions, Slope Fields, and Euler's Method. First-Order Linear Equations. Graphical Solutions of Autonomous Equations. Systems of Equations and Phase Planes. Vectors and the Geometry of Space: Three-Dimensional Coordinate Systems. Vectors. The Dot Product. The Cross Product. Lines and Planes in Space. Cylinders and Quadric Surfaces. Vector-Valued Functions and Motion in Space: Curves in Space and Their Tangents. Integrals of Vector Functions; Projectile Motion. Arc Length in Space. Curvature and Normal Vectors of a Curve. Tangential and Normal Components of Acceleration. Velocity and Acceleration in Polar Coordinates.