



Course No.	Course Title	No. of Units			Pre-requisites
		Th.	Pr.	Credit	
MATH 204	Differential Equations	3	-	3	MATH 102

Course Objectives:

- This course is primarily designed for undergraduate students studying physics and various disciplines of engineering.
- Deriving ODEs that describe various phenomena in physics, mechanics, chemistry, biology, etc.
- Learning various methods for solving a great variety of differential equations.
- Upgrading the skills of the student to understand more better the other branches physics, mechanics, chemistry, biology.

Course Description:

First order and first degree differential equations (Separable, Exact, homogeneous, and liner equations, Linear equations, Bernoulli equation, Ricati equation, Applications). The homogeneous differential equations with constant coefficients. The methods of undetermined coefficients, Non homogeneous equation, reduction of order, and variation of parameters. The Cauchy-Euler equation. Series solutions. Systems of linear differential equations. Applications.

Main Text Book:

- A First Course in Differential Equations with Modeling Applications, 10th Ed., by Dennis G. Zill (2013).

Subsidiary Book:

- Elementary Differential Equations with Boundary Value Problems, by C. H. Edwards and D. E. Penney, 6th edition, Pearson Prentice Hill, 2008.