Math 225

Introduction to Differential Equations

Text Book:A FIRST COURSE IN DIFFERENTIAL EQUATIONS with Modeling Applications By DENNIS G. ZILL

Syllabus**:**

1. Classification of Differential equations and their origins
2. Methods of solution of first order differential equations, orthogonal trajectories
3. Linear equations with constant coefficients and variable coefficient
4. Linear system of equations, power series solutions of linear differential equation of the second order with polynomial coefficients.
5. Laplace transform and the convolution.

Chapters:

* Chapter one: 1.1, 1.2.
* Chapter two: 2.2, 2.3, 2.4, 2.5.
* Orthogonal trajectories.
* Chapter four: 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.9.
* Chapter six: 6.1, 6.2.
* Chapter 7: 7.1, 7.2, 7.3.