



Catalog Description:

Linear transformations and matrices, spectral theorem, ordinary differential equations, existence and uniqueness theorems, phase space, stability, oscillations.

Prerequisite:

C or better in 4182H or in both 2182H and 3345; or C or better in 264H or in both 263H and 345; or permission of department.

Text:

Linear Algebra: An Introductory Approach, revised 4th edition, by Curtis, published by Springer, ISBN: 9780387909929

Introduction to Ordinary Differential Equations, by Coddington, published by Dover, ISBN: 9780486659428

Topics List:

1. Vector spaces and linear transformations.
2. Systems of equations, determinants.
3. Spectral theorem.
4. Ordinary, linear and nonlinear differential equations.
5. Existence and uniqueness theorems.
6. Phase space, stability, and periodic points.