

Midterm Exam-2 content:

Chapter 7. Systems of First Order Linear Equations

§7.7: Fundamental matrices.

§7.8: Repeated eigenvalues.

§7.9: Nonhomogeneous linear systems (variation of parameters only).

Chapter 4. Higher Order Linear Equations

§4.1: General theory of n^{th} order linear equations

§4.2: Homogeneous equations with constant coefficients.

§4.3: The method of undetermined coefficients.

§4.4: The method of variation of parameters.

§3.7: Mechanical and electrical vibrations.

§3.8: Forced Vibrations.

Chapter 5. Series Solutions of Second Order Linear Equations

§5.1: Review of Power Series

§5.2: Series Solutions Near an Ordinary Point, Part I

§5.3: Series Solutions Near an Ordinary Point, Part II

§5.4: Euler Equations, Regular Singular Points

§5.5: Series Solutions Near a Regular Singular Point, Part I