# Math 46: Introduction to Ordinary Differential Equations
## Spring Quarter, 2020

Textbook: Differential Equations with Boundary Value Problems by Dennis Zill, 9th Edition

Week 1:
    Day 1: (Introduction); 1.1 Definitions and Terminology.
    Day 2: 1.2 Initial-Value Problems; 2.1 Solution Curves Without a Solution
Week 2:
    Day 1: 2.2 Separable Equations
    Day 2: 2.3 Linear Equations
Week 3:
    Day 1: 2.4 Exact Equations
    Day 2: 2.5 Solutions by Substitution
Week 4:
    Day 1: 2.6 A Numerical Method; 1.3 Differential Equations as Mathematical Models
    Day 2: 3.1 Linear Models; 3.2 Nonlinear Models; 3.3 Modeling with Systems of First-
        Order DEs.
Week 5:
    Day 1: Review
    Day 2: Midterm
Week 6:
    Day 1: 4.1 Preliminary Theory – Linear Equations
    Day 2: 4.2 Reduction of Order
Week 7:
    Day 1: 4.3 Homogeneous Linear Equations w Constant Coefficients
    Day 2: 4.4 Undetermined Coefficient – Superposition Approach
Week 8:
    Day 1: 4.5 Undetermined Coefficient – Annihilator Approach
    Day 2: 4.6 Variation of Parameters
Week 9:
    Day 1: 4.7 Cauchy – Euler Equations
    Day 2: 4.8 Green's Functions (I)
Week 10:
    Day 1: 4.8 Green's Functions (II)
    Day 2: Final Review