(3-0-0; —) **Differential Equations for Electrical and Computer Engineers** MATH-235*

Textbook: *Ordinary Differential Equations*, 3rd Edition
by B. J. Rice and J. D. Strange (Brooks/Cole)

Prerequisite: APSC-171* *and* APSC-172* *and* APSC-174*.

Instructors: Section A: B. J. Kirby
Section B: L. G. Roberts

Evaluation: Homework 10%
Mid-term test 20%
Final examination 70%

Outline:

1. Separable and linear first order equations, Heaviside's unit step function, direction fields and graphical solutions.

2. Second order linear equations with constant coefficients, the method of undetermined coefficients.

3. The Laplace transform.

4. Linear systems and their solution by Laplace transform and vector-matrix methods.

All applications will be to electrical circuits.

The computer algebra system Maple is used throughout.