Instructor: Kimon P. Valavanis
Professor and Chair, ECE
Office: CMK 300
Phone: (303) 871-2586
E-mail: Kimon.Valavanis@du.edu
Office Hours: TBD and by appointment

COURSE SUMMARY
The course aims at providing the foundations for using mathematics as a ‘tool’ for solving engineering problems. Covered material goes beyond ‘just theory’ linking covered topics to real problems in science and engineering disciplines. The course material focuses on:

- Ordinary Differential Equations
- Linear Algebra, Vectors and elements of Vector Calculus
- Laplace Transform and Fourier Transform / Series
- Complex Analysis (Variables, Functions)
- Bessel Functions
- Series
- Applied Probability and Statistics


COURSE DESCRIPTION / TOPICS
- The course will cover the following Chapters, or parts of:
  - Chapters 1, 2, 3.1-3.3, 3.8, 3.11, 4.
  - Chapters 7, 8, 9.1-9.5.
  - Chapter 10.1-10.3.
  - Chapter 12.
  - Chapter 17.
  - Chapter 19.
  - Lecture notes for Applied Probability and Statistics

EXPECTED OUTCOMES
The course is suitable for researchers and engineers whose field requires knowledge of applied mathematics. The course expected outcome is proficiency in using mathematics as a ‘tool’ to solve problems, as well as ability to use mathematics for system modeling purposes. A desirable outcome is also ability to use software packages for problem solving.

GRADING POLICY
Mid-term exam (25%); Final exam (25%); Homework (20%); Project (30%)