Methods of Applied Mathematics

MATH 5593

Time and Place: T Th 2:00-3:15 p.m. in MSCS 509
Professor: Igor E. Pritsker
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Textbook: J. H. Davis, Methods of Applied Mathematics with a MATLAB Overview, Birkhauser, 2003.

Virtually all areas of mathematics can be applied to problems arising in natural sciences and engineering. As a consequence, Applied Mathematics is a very diverse subject. Our course is primarily devoted to the applications of Fourier analysis. We shall consider Fourier series, their applications in partial differential equations and boundary value problems; methods associated with Laplace, Fourier, and discrete transforms; further topics if time allows. This material is contained in Chapters 2, 3, 6, 7, 8.

Your grade will be determined by the Midterm (40%) and the Final (40%) Exams, as well as by regular home assignments (20%) that will be collected bi-weekly. We use the standard scale:

A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	59% and lower

Note that the above numbers are percentages of the highest possible score for the course.

Prerequisites: Vector Calculus (MATH 4013) and Intermediate Differential Equations (MATH 4233) courses.

University Syllabus Attachment: Contains drop deadlines and procedures, as well as many other important dates and university policies.

Additional references:
1. F. B. Hildebrand, Methods of Applied Mathematics, Dover, 1992.
2. M. H. Holmes, Introduction to the Foundations of Applied Mathematics, Springer, 2009.
3. J. D. Logan, Applied Mathematics, Wiley, 2006.
4. G. Strang, Introduction to Applied Mathematics, Wellesley-Cambridge Press, 1986.