

# COURSE ANNOUNCEMENT

## Numerical Methods II

MATH 467/667 (CS 467/667)

Spring Semester 2007  
MW 4:00–5:15  
AB 635

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Although Math 467/667 is the second course in a year long sequence dedicated to studying basic Numerical Techniques it is independent from Math 466/666. You do not need the knowledge of Numerical Methods I to be in the course. The course is exclusively dedicated to the numerical solution of ordinary and partial differential equations. If occasionally the material from Numerical Methods I is needed it would be introduced in a compact self-contained form.

Throughout the course we conduct theoretical analysis of traditional methods that are used for the solution. At the same time students would conduct a number of programming exercises that illustrate suitability or not suitability of methods often used in problem solving.

Consideration of many topics of numerical analysis require a lot of auxiliary information from different areas of analysis, differential equations, linear algebra, etc. Such information will be compactly presented during the course as needed.

Grade in the course will be based on exams and homework assignments that would include theoretical and computational problems. The main computing language will be MATLAB due to the large number of in-built subroutines with various algorithms.

**Main Text:** Arieh Iserles, *A First Course in the Numerical Analysis of Differential Equations*, Cambridge University Press 1996.

**Supplementary Texts:** K.W. Morton, D.F. Mayers, *Numerical Solutions of Partial Differential Equations*, Second Edition, Cambridge University Press 2005.

Jeffery J. Leader, *Numerical Analysis and Scientific Computation*, Addison Wesley 2004.