Mat 684: Numerical Analysis II, Spring 2013

Instructor: Dr. Yuesheng Xu

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Class Meeting Time: 2:15-3:35, Monday and Wednesday
Office Hour: 10:30-11:30, Monday and Wednesday


Credit: 3 hours.

Topics Covered by the Course:

- Numerical Solutions of Ordinary Differential Equations:
  - The Existence and Uniqueness of Solutions
  - Taylor-Series Methods
  - Runge-Kutta Methods
  - Multistep Methods
  - Stability Analysis
  - Boundary Value Problems and their Numerical Methods

- Numerical Solutions of Partial Differential Equations:
  - Finite Difference Methods
  - Galerkin Methods
  - First Order Partial Differential Equations: Characteristic
  - Numerical Methods for Hyperbolic Problems
  - Multigrid Method

Grades: Students’ grades will be computed based on the percentages:

- Two Exams, 30% each
- Final Exam, 40%
- Two Numerical Projects (or Presentations), 10% each for bonus points