SYLLABUS OF MATH 226A: COMPUTATIONAL PDES

LONG CHEN

1. CLASS AND INSTRUCTOR INFORMATION

Class.
- MATH 226B: COMPUTATIONAL PDES
- Quarter: Winter 2008
- Meeting Information
  PSCB 230
  M W F 12:00am to 12:50am

Instructor.
- Long CHEN
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2. CONTENT

Course Description. In Math 226 B, we shall focus on numerical solutions on parabolic and hyperbolic equations. More precisely, we plan to cover the following topics:
- Numerical Methods for Elliptic Equations
  - Finite Difference Method
  - Finite Volume Method
- Numerical Methods for Parabolic Equations
  - Finite Difference Method
  - Finite Element Method
- Numerical Methods for Hyperbolic Equations
  - Finite Difference Method
  - Finite Element Method

Text Book.
- Jichun Li and Yi-Tung Chen, Computational Partial Differential Equations Using MATLAB, Chapman & Hall/CRC Applied Mathematics & Nonlinear Science Volume: 17.
- S. Larsson and V. Thomée, Partial Differential Equations with Numerical Methods, Springer, 2003.

Homework, Project, and Exam. Homework (not including MATLAB projects) will be assigned on the course homework page and should be completed by the indicated due date.

There will be three Matlab projects.

There will be only one final exam or final project.

Grading. Your course grade will be determined by your cumulative average at the end of the term:
- 40% Homework
- 40% Matlab projects
- 20% Final Exam/Project

Reading. As a graduate course, reading the paper corresponding to the assigned homework or project is considered part of the assignment. You are responsible for material in the assigned reading whether or not it is discussed in the lecture.