Office Hours: MTWRF 12-1 and by appointment
Text: Several texts are on reserve in the Science Library.

Policies:

1. If you have any questions or concerns about this course, don’t hesitate to talk with me.

2. Course grades are determined by a total of 500 points:
   - 200 pts 2 midterm exams (100 pts each)
   - 150 pts homework
   - 150 pts programming projects

   The tentative grade scale is: A (460-500), A- (450-459), B+ (440-449), B (410-439), B- (400-409), C+ (390-399), C (360-389), C- (350-359), D+ (340-349), D (300-339), D- (290-299), F (0-289).

3. Homework problems will be assigned and collected regularly.

4. There will be two midterms. The first exam will cover parabolic equations, and the second will cover hyperbolic equations. The first exam will probably be given in Week 8, and the second exam will be given during Final Exam Week.

5. There will be several (probably 4) programming projects during the semester, using FORTRAN as the computing platform. Programs will be graded on the correctness of algorithm, documentation, style and output format. More details will be provided with each project. It is vital that you have some background in numerical analysis or numerical methods, and in scientific programming. This is not an introductory course, and basic programming will not be taught.

6. You must have a basic knowledge of linear algebra; in particular, Gaussian elimination, eigenvalues and eigenvectors, and matrix diagonalization. Also, it is advantageous to have studied partial differential equations and/or numerical linear algebra.

7. All University regulations apply to this course. In particular, the policies concerning academic dishonesty, sexual harassment and withdrawal from a course apply. March 6 is the last day to withdraw. I will sign drop slips without restriction.

8. If you carry a cell phone, please turn it off while you are in class. Each time your cell phone rings during class, you will lose 5 homework points.

Learning Outcomes

Students are expected to be able to convert initial value problems for parabolic and hyperbolic partial differential equations into discretized form, write computer code to solve the problem numerically, and to interpret results.
Reference Texts:

These books should be available for 4 hour check-out.

**TENTATIVE TIMELINE**

Introduction, 3 weeks  
Parabolic PDEs, 6 weeks  
Exam 1, Week 8  
Hyperbolic PDEs, 6 weeks  
Exam 2, Finals Week