1 Course Overview and Instructional Objectives

By the end of this course, students should be able to demonstrate the ability to write simple programs in a language of their choosing, such as MATLAB, and demonstrate knowledge of numerical methods for ODEs and PDEs at the level of the course textbook (see below).

1.1 Pre-requisites and Course Materials

This course is a continuation of MTH 451, which is a first semester course in Numerical Analysis. Students are required to have taken MTH 451 and been granted instructor consent.

1.1.1 Required Materials:


  The errata, exercises and sample codes are available from [the author's website](http://www.math.msu.edu/~seal/).

1.1.2 Recommended Materials:

- Hairer, Nørsett and Wanner, *Solving Ordinary Differential Equations I.*
- Hairer and Wanner, *Solving Ordinary Differential Equations II.*
- Lloyd N. Trefethen *Spectral Methods in MATLAB.* (pending interest)
- William L. Briggs, Van Emden Henson and Steve F. McCormick *A Multigrid Tutorial,* (also pending student interest).

1.2 Course plan

We will cover Chapters 1-3, 5-7 and (time permitting) 8 and 9. Content may vary depending on student interest.

2 Office Hours

I live in Wells Hall C330. I guarantee my presence there every Monday and Tuesday from 15:00–16:30. Meetings outside of this time can be scheduled by appointment with appropriate notice and availability.

3 Evaluation

Final grades will be based on homework (40%), in class presentations (30%) and a final project (30%). Details concerning the final project will be discussed throughout the semester.
4 Important Dates

Please visit the University’s academic calendar for important dates. The final exam schedule for all of your courses can be found on the Registrar’s website.

5 Attendance Policy

Given that this is a reading course, weekly attendance is required. In the event that a student must miss a meeting, the student is required to inform the instructor and arrange for a make-up session.