Overview

In this course we will study the essential concepts in numerical methods such as convergence, stability and efficiency. Particular topics will include numerical solution of ordinary differential equations, function approximation and boundary value problems. We will cover parts of chapters 5, 8 and 11 in the text. MATLAB programming will be integrated throughout the course, and students will be required to do two MATLAB projects.

Prerequisites

Math 300. Working knowledge of calculus, linear algebra, and basic programming concepts. Programming experience is required, and knowledge of MATLAB is preferred. We will introduce some MATLAB syntax in class, but we will not teach basic programming skills.

Required Text: Numerical Analysis, 8th Edition by Burden and Faires

Grading

The grades will be based on two exams and 2 projects.

Exam 1: Wednesday May 5, in class. 30 %
Exam 2: Finals week. Will focus on second half of course material. 30 %
Project 1: Due Wednesday, April 28 in class. 20 %
Project 2: Due last day of classes, in class. 20 %

Course Policies

• Projects are due by the beginning of the class period on the due date. Late projects will lose 10% for each day they are late.

• Make-up exams will be given only in special circumstances, and documentation will be required.

• Students are responsible for all material and announcements given in class.