MATH 3511
Numerical Analysis II
Spring 2012
Syllabus

Instructor
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MSB 332

Venue and Time
MSB 219, TuTh 9:30-10:45 pm.

Office hours
Thursday 2:00-3:00 pm or by appointment

Prerequisites
This is the second semester of the basic Numerical Analysis course. In the course I assume that the students have knowledge of the material covered in the first semester, namely Taylor expansion, Bisection method, Newton’s method, Interpolations, Numerical differentiation; Numerical integrations, Numerical method for solving ordinary differential equations. The new topics I am planning to cover are the following: The course will cover the following topics:

- Direct Methods for Solving Linear Systems.
- Iterative Techniques.
- Approximation Theory.
- Matrix Decompositions.
- Numerical Solutions of Nonlinear Systems of Equations.
- Numerical Solutions to Partial Differential Equations.

Textbook

_Numerical Analysis_, by Richard Burden and Douglas Faires.

Grading policy

- Homework 70%
- Final Project 30%

Homework
There will be weekly homework assignments. There will be problems which require analysis while other problems will require Matlab code. Collaboration with classmates is encouraged. However, everyone must write and turn in their homework solutions separately.