Math 4513 - Numerical Analysis

Syllabus - Fall 1998

Instructor:	Dr. Birne Binegar
	430 Mathematical Sciences
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Office Hours:	Mondays and Wednesdays at 2:30 pm, MS 430
Required Text:	*Numerical Analysis*, Second Edition,
	by David Kincad and Ward Cheney, ISBN 0-534-33892-5
Prerequisites:	Differential Equations (Math 2233) and Linear Algebra
	(Math 3013) and programming experience with C, BASIC, PASCAL, or FORTRAN
Objectives:	Upon completion of this course students should have a basic understanding of machine computing, algorithms, and analysis of errors applied to interpolation and approximation of functions, solving equations and systems of equations, discrete variable methods for integrals and differential equations
Homework:	Homework problems will be assigned daily in class. All the homework assigned during a given week will be due at the beginning of the first class of the following week. Several of the homework assignments will involve the use of the computing facilities at the MLRC (Mathematical Learning Resource Center), located in the basement of South Murrary.
Examinations:	There will be two midterm examinations worth 100 pts each and one final examination worth 150 pts.
Grades:	Grades will be determined exclusively from homework, midterm, and final exam scores.

Homework and Quizes	20 possible pts.
2 Midterm Examinations	200 possible pts.
Final Examination (5:00 p.m., Dec. 11)	150 possible pts.
	370 possible pts.

Letter grades will be assigned as follows:

A:	360	-	400 pts.
B:	320	-	359 pts.
C:	280	-	319 pts.
D:	240	-	279 pts.
F:	0	-	239 pts.

Course Outline

1. Mathematical Preliminaries
2. Computer Arithmetic
3. Solution of Nonlinear Equations
4. Solving Systems of Linear Equations
5. Approximating Functions
6. Numerical Differentiation and Integration
7. Numerical Solution of Ordinary Differential Equations