CSC 336 Numerical Methods Fall 2002

Instructor

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Course web page and newsgroup

http://www.cs.toronto.edu/~ngkit/COURSE02F/csc336.html
ut.cdf.csc336h

Please address all assignment and test related questions to the newsgroup.
I will not answer any questions on Sun and Mon.

Lectures and Tutorials

Lectures:	Mon 7:10-9:00	BA1190		
Tutorials:	Mon 6:10-7:00	BA1190	Zheng Zeng	A-F
		BA2130	Khosro Shahbazi	G-M
		BA2139	Hae-Won Choi	N-S
		BA2159	Amir Pourmousa	T-Z

The first tutorial will be on 16/09/02.

Textbooks

C. F. Van Loan, *Introduction to Scientific Computing* 2Ed, 2000. Required.
R. L. Burden, J. D. Faires, *Numerical Analysis* 7Ed, 2001. Recommended.

Grading scheme

Four assignments	10% each
Mid-term test	20%
Final exam	40%

You must recieve at least 30% on the final exam in order to pass this course.

Important dates

09/09/02 Assignment 1 out.
30/09/02 Assignment 1 due. Assignment 2 out.
21/10/02 Assignment 2 due. Assignment 3 out.
28/10/02 Mid-term test (in tutorial).
11/11/02 Assignment 3 due. Assignment 4 out.
02/12/02 Assignment 4 due.

Late policy

All assignments are due at the beginning of the tutorial on their due date. An assignment one day late will be penalized 10% of its total value. An assignment two days late will be penalized 20% of its total value. An assignment more than 2 days late will recieve a grade of 0.

Prerequisites

- General: Ability to handle notation and to do algebraic manipulation.
- Calculus: Differentiation and integration of polynomial, trigonometric, exponential, logarithmic and rational functions, continuity, limits, graphs of functions, Taylor series, Rolle's theorem, mean-value theorem, de l' Hospital's rule, etc.
- Linear Algebra: Matrix and vector addition and multiplication, elementary row operations, linear (in)dependence, inverse matrix, etc.
- Programming: knowledge of (or will to learn) MATLAB.

Aims

- Formulate numerical methods for approximation, integration and for solving linear and nonlinear algebraic equations and systems.
- Evaluate numerical methods with respect to their convergence, accuracy and efficiency.
- Develop and practice computer skills in implementing numerical methods efficiently on the computer.
- Use high level software for studying numerical methods.

Outline

- Computer Arithmetic and Computational Errors
- Linear equations
- Nonlinear Equations and Systems
- Interpolation
- Quadrature Rules