MTH 451  Numerical Analysis I

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Office Hours: WF 2:00 - 3:30pm, or by appointment  
Class Hours: MWF 9:10 -10:00am at C300 WH

Text: W. Cheney and D. Kincaid: Numerical Mathematics and Computing Methods (Chapters: 1 - 15). Other references will be assigned when it is necessary.

Course description: This course is an introduction to the following subjects:
(1) Numerical methods for solving nonlinear equations  
(2) Numerical interpolation, integration and differentiation  
(3) Numerical solutions of linear systems  
(4) Numerical solutions of differential equations  
(5) Splines, least squares and Monte Carlo.

Homework: There will be one homework assignment for each chapter. Your solutions of the homework problems will be collected and graded. Almost all of the assignments require computer programming. You can use any computer language. However, symbolic computing tools, such as MATLAB, MAPLE, MATHMETICA are NOT recommended.

Exams: There will be two 50min tests and a final exam. The test dates are Oct. 14 and Nov. 18. Tests and exam will be close book, close notes and in class. The final exam will be comprehensive (two hours).

Grades: Your grade will be based on 40% of homework, 30% of the tests and 30% of the final exam. (90% - 100% is 4pts, 85% - 89% is 3.5pts, 80% - 84% is 3.0pts and etc.).

Absence: Although class attendance will not be counted, you are expected to be present at all class meetings. You are responsible for getting all the class information if an absence of class is unavoidable. Make-up test
and exam will **ONLY** be given for reasons like sickness with a doctor’s note. For family matters, school activities, etc., make-up test or exam usually will not be granted. For very special cases, please come to talk to me ASAP for other possible arrangements.