THE UNIVERSITY OF KENTUCKY
Department of Mathematics

MA/CS 321 Introduction to Numerical Methods
Sections 1, Spring 2019
MWF 11:00 - 11:50am, CB 345

Instructor: Dr. Qiang Ye
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Office Hours: MWF 2:00-3:00 pm

Class Home Page: `http://www.ms.uky.edu/~qye/MA321/ma321.html`

Text: W. Cheney & D. Kincaid, Numerical Mathematics and Computing (7th Edition)

Prerequisites: MA 213 and CS 221 or equivalent. Knowledge of a procedural programming language (C/C++, Java, python, or MATLAB) is required.

Outline:

- Chapter 1. Mathematical preliminaries.

- Chapter 3. Nonlinear equation.

- Chapter 4. Interpolation and Numerical differentiation.

- Chapter 5. Numerical integration.

- Chapter 2. Linear systems.

- Chapter 8. More on Linear systems (Sec. 8.1).

- Chapter 6. Spline functions.

Homework and Exams: Homework will be assigned weekly with the exception of the exam weeks. Homework will be a combination of written homework, online homework (WeBWorK), and programming projects. Webwork assignments will be due each Thur. For programming assignments, you may use any of C/C++, Java, python, and MATLAB.

There will be two midterm exams scheduled to be in class on Feb. 13 and March 22. There will also be a comprehensive final exam to be scheduled.

If you miss an exam, you will automatically be given zero point unless legitimate reasons are provided with full documentations, in which case a make-up exam will be arranged.

Grading: The course grade will be based on attendance, homeworks, projects, and exams with the weights given as follows:

Attendance: 3%,
Homework and Projects: 50%,
Mid-term Exams (2): 22%,
Final: 25%.

The following is a scale for grading.

Grade	Minimum %
A	90
B	80
C	70
D	60

For the exams, you are allowed to bring in one page of prepared note. You may use a graphing calculator on exams but may not use any electronic device with the ability to do symbolic computations such as the TI-89, TI-92, HP48 or a laptop computer. Cell phones must be turned off and put away out of sight during an examination.

Other Information: Please see the class webpage

`http://www.ms.uky.edu/~qye/ma321/ma321.html`

for some related university's academic policies and additional information.