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CLASS WEBPAGE: http://scicomp.ucsd.edu/~mholst/teaching/ucsd/174_F00/index.html

Many of the advances of modern science have been made possible only through the sophisticated use of computer modeling. The mathematical foundation of the computer modeling techniques now used in all areas of mathematics, engineering, and science is known as *numerical analysis.* The Math 174 at UCSD provides a one-quarter introduction to the exciting field of numerical analysis, which is also sometimes referred to as *computational mathematics* or *scientific computing.*

Math 174 covers a wide range of topics in numerical analysis, including numerical methods for solving linear and nonlinear equations, interpolation and approximation of functions by polynomials, numerical differentiation and integration, and the numerical solution of ordinary and partial differential equations.

We will make use of Matlab heavily in the course, and the textbook we will use is:

Textbook: *Numerical Methods using* Matlab, *Second Edition*, by G. Lindfield & J. Penny.

The lectures will follow the textbook quite closely (in particular, Chapters 2 through 8), except that we will cover some of Chapter 7 (interpolation and approximation of functions) between Chapter 3 and Chapter 4 rather than after covering Chapter 6.

Homework assignments will be a combination of theoretical and computer problems; this will *require* some Matlab computer programming. Matlab enables you to concentrate on the algorithms in 174 rather than on the details of programming.

The course will be graded on the homework assignments, two midterm examinations and a final examination, according to the following guidelines:

Written and Computer HW:	30%
Midterm #1 (The Friday exam date to be announced):	15%
Midterm #2 (The Friday exam date to be announced):	15%
Final (Appointed time during finals week):	40%

1. All HW assignments will count towards the final grade (i.e., none can be dropped). Late HW will not be accepted.

2. In order to receive credit on a homework, you must at least attempt the computer parts of the homework assignments. *This rule will be strictly enforced.*

3. There will be no make-up exams. If you miss a midterm with an excused absence (i.e., illness with a note from a doctor), the other midterm and the final exam will be weighted accordingly.

Course information, such as homework assignments and exam dates, will be maintained on the class webpage. Therefore, CHECK THE WEBPAGE FREQUENTLY.