Applied Numerical Methods
MATH 151A - Lecture 4, Fall 2018

Lectures: MWF 3:00-3:50pm, MS 6229
Instructor: Penghang Yin
Office: MS 7620F Office hours: M W F 4-5pm.
E-mail: yph@math.ucla.edu

Discussion Section: T 3:00-3:50pm, MS 6229
Teaching Assistant: Xia Li
Office: MS 3921 Office hours: T Th 4-5pm.
E-mail: xli51@math.ucla.edu

Requisites: 32B, 33B, 115A, PIC 10A.

Topics to be covered (Tentative):
(a) algorithms, errors and convergence;
(b) analysis of algorithms to obtain solution of nonlinear equations, e.g., bisection method, fixed-point iteration, Newton’s method, secant method and method of false position;
(c) interpolations, e.g., Lagrange/Neville, Hermite, Cubic spline;
(d) numerical differentiation and integrations, e.g., quadrature rules;
(e) methods for solving linear systems, e.g., Gaussian elimination, Jacobi, Gauss-Seidel.

Textbook:
Homework Assignments:
There will be 5 homework assignments. The assignments will be posted on Tuesday every other week on CCLE. You have two weeks to finish each assignment possibly except for the last one. Homework assignments usually consist of both theoretical and coding problems. The coding problems are optional and not counted towards the grade. In each assignment, theoretical problems will be graded by TA. The lowest homework score will be dropped towards your final grade. The homework should be submitted in hardcopy to TA by the end of discussion. No late homework will be accepted.

The professor will not answer any question regarding the theoretical homework problems before its due date, unless you think the problems themselves are wrong. However, hints may be given in the assignments.

Examinations:
There will be 2 midterms and 1 final exam, and no make-up exam. The examinations are closed-book and closed-note. Changes will be announced in class and through CCLE.

Midterm:
Monday, Oct 22, 3:00pm-3:50pm, Location: MS 6229. (Tentative)
Monday, Nov 19, 3:00pm-3:50pm, Location: MS 6229. (Tentative)

Final:
Friday, Dec 14, 11:30am-2:30pm, Location: TBA.
You will not pass the course without taking final exam.

Grading System: The better grade by the following two schemes:

- 4 best homeworks (out of 5): 10% + 2 Midterms: 45% + 1 Final exam: 45%
- or
- 4 best homeworks (out of 5): 15% + 1 best Midterms: 30% + 1 Final exam: 55%

Grading Complaints:
If you believe that a problem on a homework or an exam has been graded incorrectly, or that your score was not correctly recorded, you must bring this to the professor’s attention before the date of the final exam and within 7 calendar days of the distribution dates of the homework and midterm.

Academic Honesty:
The university places very high importance on honesty in academic work by students. Solutions to homework problems have to be completed individually. No dishonesty in exams are tolerated. Please read the student guide for more information:

http://www.deanofstudents.ucla.edu/Portals/16/Documents/StudentGuide.pdf