Math 170A Introduction to Numerical Analysis – Fall 2016

Syllabus

Course: Math 170A

Instructor: Thang Huynh

Title: Introduction to Numerical Analysis: Linear Algebra

Credit Hours: 4 units

Prerequisite: Math 20F: Linear Algebra.

Catalog Description: Analysis of numerical methods for linear algebraic systems and least squares problems. Orthogonalization methods. Ill conditioned problems. Eigenvalue and singular value computations. Three lectures, one recitation. Knowledge of programming recommended.

Textbook: *Fundamentals of Matrix Computations, Third Edition*, by Watkins.

Subject Material: We will cover parts of Chapers 1, 2, 3, 4, 5, and 8. (See calendar for specific details.)

Lecture: Attending the lecture is a fundamental part of the course; *you are responsible for all material presented in the lecture* whether or not it is discussed in the textbook. You should expect questions on the exams to test your understanding of concepts discussed in the lecture and in the homework assignments.

Reading: Reading the sections of the textbook corresponding to the assigned homework exercises is considered part of the homework assignment; you are responsible for material in the assigned reading whether or not it is discussed in the lecture. It will be expected that you read the assigned material in advance of each lecture.

Homework: Homework will be assigned on the course homework page and *should be completed by 5 pm on the indicated due date.* Your completed homework assignments should be submitted into the homework dropbox (located in the basement of AP&M) labeled 170A and your TA's name. Your worst homework score will be dropped. Before you submit, make sure to staple your work and have your name, ID number and section number written clearly on top of the front page. *Late homework will not be accepted.*

Midterm Exams: There will be two (2) midterm exams. (See also the course calendar). You may bring a ONE SIDED 8.5 by 11 inch handwritten sheet of notes with you to each midterm exam. No calculators will be allowed. *There will be no makeup exams.*

Final Exam: The final examination will be held at the following date and time.

- **Dec 6, 3:00 pm – 5:59 pm** (See the course calendar.)
- Please note:

  - It is your responsibility to ensure that you do not have a schedule conflict involving the final examination.
  - You should not enroll in this class if you cannot sit for the final examination at its scheduled time.
- You may bring one 8.5 by 11 inch handwritten sheet of notes with you to the final examination (BOTH SIDES OF THE SHEET MAY BE USED FOR THE FINAL EXAM). No calculators will be allowed.

Regrades: Midterm exams will be returned in the discussion sections. If you wish to have your exam regraded, you must observe the following rules:

- Return your exam immediately to your TA. Regrade requests will not be considered once the exam leaves the room.
- If you disagree with the TA's answer to your regrade request, you may ask for the instructor to review it. In order to do this, you must return your exam immediately to your TA and ask that they forward it to the instructor.
- Instructor review requests will not be considered once the exam leaves the room.
- If you do not retrieve your exam during discussion section, you must arrange to pick it up from your TA within one week after it was returned in order for any regrade request to be considered.

Calculators: A graphing calculator is recommended: a TI-83 or TI-84 (or similar model) suffices for this course, but you may wish to consider acquiring a more powerful calculator (such as a TI-89) if you think you might use it for other courses. The calculator should be used only as an aid in learning concepts, not just as a means of computation. *Note: The use of calculators will not be permitted during exams.*

Grading: Your course grade will be determined by your cumulative average at the end of the term and will be based on the following scale:

A+	**A**	**A-**	**B+**	**B**	**B-**	**C+**	**C**	**C-**	**D**
97	93	90	87	83	80	77	73	70	60

I may adjust the scale to be more lenient, but guarantee that the grade corresponding to a given percentage will not be lower than specified by the above scale. Your cumulative average will be the best of the following two weighted averages:

- 20% Homework, 20% Midterm Exam I, 20% Midterm Exam II, 40% Final Exam
- 20% Homework, 20% Best Midterm, 60% Final Exam

You must pass the final examination in order to pass the course. Note: Since *there are no makeup exams*, if you miss an exam for any reason then your course grade will be computed with the final exam counting 60% of your weighted average.

Academic Dishonesty: Academic dishonesty is considered a serious offense at UCSD. Students caught cheating will face an administrative sanction which may include suspension or expulsion from the university. Click here for more information.