

Course Title:

Introduction to Applied Mathematical Computation

Description:

We will study basic computational linear algebra, ODE, and applications to fun problems. Topics include linear systems, interpolation, zero finding, least squares, principal components analysis and singular value decomposition, eigen systems.

Meeting time and place:

Tuesday and Thursday 2:00-3:15 pm in NAC 1/511A.

Instructor Information:

- Name: Shirshendu Chatterjee
 - Office Hours: Tue 11:45 am - 12:45 pm, Thu 5:30 - 6:30 pm
- Office: NAC 4/114B
- Email: shirchat1@gmail.com

Course Textbook:

- Matrix Analysis and Applied Linear Algebra by Carl D. Meyer.
- Numerical Computing with Matlab by Moler

Grades:

Grades will be computed from the following:

- Midterm 1 (20%)
- Midterm 2 (20%)
- Final (40%).
- Homework (20%).

Your final score will be tabulated as indicated by the percentages above. A Curve will then be applied to determine your final letter grade.

Course website: Blackboard

Work outside of lecture:

Practice (doing problems and proofs, and coding!) is the most important part of this class. Do lots of problems! Try to code all the algorithms we study. Please read the sections to be covered in class before and then again after the lecture. The importance of doing problems and writing code cannot be overstated. If you have never done any programming before, start immediately.

Midterm and final exam:

The Midterms will be held in class on March 7 and April 4. The Final exam will be held between May 22 and 26. The exact date will be announced shortly.

Homework assignments:

Homework assignments will be posted on the course website. There will be written assignments and coding assignments. The coding assignments will be tested for correctness algorithmically;

either the code runs according to the given task, or it doesn't; there is no partial credit. Do not wait until the homework is due before you start working on it, especially if you have not programmed before; start the day it is assigned!

Programming language:

Matlab will be the official course language. No other languages will be allowed for credit.

Academic integrity:

You must cite any source of extra help on your take home assignments. This includes mentioning students you collaborated with, other texts, and online courses. You are allowed to discuss your work with other students, but they should not write any code for you, and you should not copy code from them or from anywhere else without my prior approval.

Again: You are responsible for writing all of your own code.

If you see something on the web, and you cut and paste it, that is copying. If you cut and paste it, and then change the names of all the variables, that is copying. If you have someone else's code in one window, and you are using it to edit your code, that is copying. In general, as you are writing your actual submission, you should not have in front of you any notes/code that you didn't write yourself.

You should not receive any extra help on Midterm and Final exams, other than the materials that I have approved. Failure to follow these rules and the CUNY Policy on academic integrity (posted at <http://www1.ccny.cuny.edu/current/integrity.cfm>) will irritate me greatly and probably lead to serious sanctions such as failing grade for the course irrespective of all your work.