Math 307: Applied Linear Algebra, 17W
Term 1, Section 102

Syllabus

Course Information

Lectures: Mon, Wed, Fri 1pm-2pm at Mathematics Building, Room 102

Course webpage: http://www.math.ubc.ca/~hajeong/Math307Winter.html

Text book: We will use the following online book as the main text.
Chapter 1 : Linear Equations
Chapter 2 : Subspaces, Bases, and Dimension
Chapter 3 : Orthogonality
Chapter 4 : Eigenvalues and Eigenvectors

Instructor Information

Instructor: Halyun Jeong
Office hour: Tuesday 3:30-5:30 pm in LSK 300C
Email: hajeong@math.ubc.ca

Course Outline

Our goal is to cover most of the following topics in the course lecture notes: Interpolation, Finite difference approximations, Formula matrix of a chemical system, Graphs and Networks, Least squares, Fourier series, Fast Fourier Transform, JPEC compression, Power method, Recursion relations, The Anderson tight binding model, Markov chains, Google PageRank.

Grading Policies

The course mark will be determined based on homework (10%), quizzes (10%), a midterm (30%), and a final (50%).

The **homework is due each Wednesday**. Please hand in our homework when the class starts. Late homework will not be accepted but the lowest marked homework will be dropped in the final grade calculation. Students are encouraged to discuss homework, but should write up their homework individually.

Under no circumstances, will there be a make-up midterm. If a student misses the midterm with a valid reason, his or her final exam will be re-weighted to incorporate the midterm weight. The valid excuses for missing homework or exams include a prior approval of the instructor or medical emergency which must be supported by a physician's note within 72 hours. Missed homework, quizzes, exams without these reasons will be marked as 0.

Exam Information

All exams are closed books and no calculators are allowed.

There will be four 10 minute in-class **quizzes on Sep 20, Oct 4, Nov 8, and Nov 24**.

The in-class **midterm** will be held on **Friday, October 20.**

The final exam date is fixed by UBC (the date/time will be announced soon). Please plan your end-of-term travel carefully according to this date.

Computational software support

You will need access to MATLAB software to complete the work for this course. MATLAB is a widely used program for numerical computations with matrices. As of now, MATLAB is available to all UBC students at no cost. For the information including download and activation, follow this link:
https://it.ubc.ca/services/desktop-print-services/software-licensing/matlab#getMATLAB

You can also access MATLAB in the math department computer lab which is located in LSK 310. The lab hours are posted. You may use any free terminal in the lab during these times. Your username and password will be given out in the class. Let me know if you have difficulty with the login. You may also use GNU Octave and they are also free. However, the instructor will only be able to answer questions regarding MATLAB.

Piazza Signup link for this course:

https://piazza.com/ubc.ca/winterterm12017/math307/ You can ask questions regarding homework, course note, MATLAB, etc. and your instructor, TA, fellow students can answer them.

UBC's academic misconduct policies :

http://www.calendar.ubc.ca/Vancouver/index.cfm?tree=3,54,111,959