Math 2B-62, Spring 2020 (46292) -- ONLINE — Richard Hansen
Linear Algebra; MW 6:30-8:45 pm; via Zoom — email: HansenRichard@fhda.edu
Text: Anton/Rorres/Kaul, Elementary Linear Algebra, Applications Version, 12th edition
Website: www.deanza.edu/faculty/hansenrichard — Office Hours: MTWTh 5:00-6:00 pm; via Zoom

Syllabus: Linear algebra and selected topics of mathematical analysis.
Prerequisite: MATH 1D (grade C or better).

Equipment: Graphing calculator, numerical only; no algebraic calculators (no TI-92 or equivalent).

Week (Mon)	Topics with reference to chapters and sections in Anton/Rorres/Kaul
1 (4/13)	Introduction; 1: 1-4 (systems of linear equations and matrices); Quiz #1
2 (4/20)	1: 5-9; 9.1 (matrix equations, forms, and linear transformations; LU-decomposition); Quiz #2
3 (4/27)	2: 1-3; 3: 1-5 (determinants; review of Euclidean spaces); Quiz #3
4 (5/4)	4: 1-4 (general vector spaces; spanning sets and linear independence); *Test #1 (6 May)*
5 (5/11)	4: 5-9 (coordinates, bases, and dimension; change of basis; row, column, null spaces); Quiz #4
6 (5/18)	5: 1-2; 6: 1-2 (eigenvalues and eigenvectors; diagonalization; inner product spaces); Quiz #5
7 (5/25)	6: 3 (Gram-Schmidt process); *Test #2 (27 May)*
8 (6/1)	6: 4-6 (least squares approximation and modeling; Fourier series); Quiz #6
9 (6/8)	7: 1-4 (diagonalization and quadratic forms); Quiz #7
10 (6/15)	8: 1-6 (general linear transformations, similarity, and geometry); Test #3 (17 June)
11 (6/22)	**Final Examination, Wednesday, 24 June, 6:15 - 8:15 pm**

Course Requirements: The course will consist of a combination of teacher demonstrations with student participation in discussions, individual, and group work.

1. There will be seven Homework **Quizzes** during the quarter based upon the suggested problems. No make-ups will be given, unless arranged in advance. The lowest quiz score will be dropped to compute the course grade. Success in the course requires practice: at a minimum, students should work the problems that are suggested.
2. There will be three in-class **Tests**. Note the dates; no make-ups will be given, unless arranged in advance. If higher, one-half of the score on the final exam will replace the lowest test score to compute the course grade.
3. There will be a comprehensive two-hour **Final Examination**, Wednesday, June 24, from 6:15 to 8:15 pm. Any student missing the final exam will fail the course; no excuses are acceptable.

Grading:			
	Quizzes	(6 X possible 25 points each)	150
	Tests	(3 X possible 50 points each)	150
	Final Exam	(1 X possible 100 points)	100
			400 points

Course grades will reflect the following percentage range of total scores:
A = $90 \le \% \le 400+$ [360, 400+) B = $75 \le \% < 90$ [300, 360) C = $60 \le \% < 75$ [240, 300)
D = $50 \le \% < 60$ [200, 240) F = below 50% (0, 200)
Grades of B+ and C+ will be used as the final distribution of grades warrants; A-, B-, and C- will not be used.

Attendance: Regular attendance is expected. A student who misses any class during the first two weeks of the quarter may be dropped from the course. Inform the instructor, in advance, of any necessary absences; email the instructor if an emergency arises. Note, however, that it is the **student's responsibility** to formally "drop" the course. Protect your academic record by observing these deadlines:
26 April to drop with no record 8 May for P/NP option 5 June to drop with a "W"

Student Learning Outcome(s):

*Construct and evaluate linear systems/models to solve application problems.
*Solve problems by deciding upon and applying appropriate algorithms/concepts from linear algebra.
*Apply theoretical principles of linear algebra to define properties of linear transformations, matrices and vector spaces.