

DEPARTMENT OF MATHEMATICS AND STATISTICS
STUDENT INFORMATION SHEET AND SYLLABUS

Class Time	Room	Office	email	Office Hrs
5:30-7:17 pm TR	185 MSC	452 MSC	pshi@oakland.edu	4:00-5:15 pm, TR

Course: MTH 2775, Linear Algebra, Winter 2018

Text: Linear Algebra with Applications, 9th Edition, by Steven J. Leon

From the course catalog: Study of general vector spaces, linear systems of equations, linear transformations and compositions, Eigenvalues, eigenvectors, diagonalization, modeling and orthogonality. Provides a transition to formal mathematics. (Formerly MTH 275)

Prerequisites: MTH 155 with a grade of 2.0 or higher.

Calculator Policy: For this course, a graphing calculator is not needed. Calculators are not permitted in exams.

Exams: There are two online exams on Moodle, each worth 100 points. Final Exam is comprehensive, worth 200 points.

Final Exam Date: Thursday, April 19, 7:00-9:30 PM

Grading Policy: Each test is 100 points. The final exam is 200 points. The average of of your total points is computed by

$$\text{average} = (\text{test 1} + \text{test 2} + \text{final exam})/4$$

This is converted to the 4.0 grade scale as follows.

65%--->2.0, 80%--->3.0 90%--->3.6, 95%--->4.0

INTENDED SYLLABUS

Week of	Tuesday	Thursday
12/31	NA	1.1-1.2, linear system of equations, row echelon form, solvability
01/07	1.3-1.4, matrix arithmetic, matrix algebra	1.5-1.6, elementary matrices, partitioned matrices
01/14	Selected problems	2.1-2.2, determinants
01/21	2.2, properties of determinants	2.3, additional topics, Cramer's rule
01/28	Selected problems	3.1-3.2, vector spaces, subspaces
02/04	3.3-3.4, linear independence, basis and dimension	3.5-3.6, change of basis, row and column spaces
02/11	Selected problems	Test 1 on Moodle, due 7:15 pm
02/18	Winter recess	Winter recess
02/25	4.1-4.2, linear transform	4.3, similarity
03/04	Selected problems	5.1, inner product in $\mathbb{R}^n$
03/11	5.2, orthogonal subspaces	5.4-5.5, inner product spaces, orthogonal sets
03/18	5.6-5.7, Gram-Schmidt process, orthogonal polynomials	Selected problems
03/25	6.1, eigen-values and eigen-vectors	6.1 continues
04/01	6.3 diagonalization	Selected problems
04/08	Test 2 on Moodle, due 7:15 pm	6.7 positive definite matrices and applications
04/15	Review, last class.	7:00-9:45 pm Final Exam