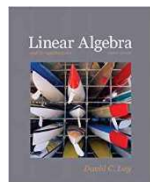


Math 200: Introduction to Linear Algebra
Summer, 2024
Tuesdays and Thursdays, 6:20-9:40pm

INSTRUCTOR: Andy Rosen

E-MAIL: rosen@rosenmath.com



TEXTBOOK: Linear Algebra and Its Applications, 4th edition, by David C. Lay

MATERIALS: All class assignments and exams must be done in pencil – work done in ink will not be given credit. Students are encouraged to bring a graphing calculator to class, though exams will not allow the use of a calculator.

CLASS WEBSITE: The class website is at rosenmath.com, just click “Math 200 (Summer)” on the left side. On this site, students will find the schedule for the entire course as well as all class materials. For each lesson, students are provided:

- A handout to help take notes
- A video of the lesson
- Annotated notes from the lesson
- Homework for students to practice the material from each lesson and get an idea of what could be asked on tests

LESSONS: Students are encouraged to attend each class so that they can ask questions and interact with the instructor. Lesson videos are provided for students who are unable to attend the live lessons.

OFFICE HOURS: The instructor will arrive to class 30 minutes early to answer any questions. He is also available via e-mail if you would like to send questions there.

MYOPENMATH: A variety of resources is available on www.myopenmath.com, including downloadable copies of the class textbook and solutions manual. MyOpenMath is free for students, you just need to create an account. When you are ready to enroll in the class on MyOpenMath, use Course ID 60350. The enrollment key will be given in class.

EXAMS: There will be 3 exams throughout the course, as listed on the class website, and each exam will be worth 100 points. Exam questions are based on the homework as well as examples from the lessons, and students are not allowed to use a calculator. There are no make-up exams, but the lowest exam score will be replaced with the final exam score if that score is higher. The final exam is worth 100 points and will be given on Thursday, August 15.

GRADING SCALE:

90% - 100% = A

80% - 89% = B

70% - 79% = C

60% - 69% = D

Below 60% = F

I will curve decimals, but 89.4% is still a B.

MISCELLANEOUS:

- Participation and attendance are not part of your grade. However, students who regularly attend class and participate in class discussions will find that they understand the course material more fully.
- Students with disabilities need to contact the instructor during the first week to discuss testing accommodations.
- If you feel that you are falling behind in the course, do not hesitate to approach the instructor with questions. He is available before and after class to help students who need assistance. In addition, the Math Learning Center is available. Visit <https://www.palomar.edu/math/mlc> for more information.
- Inappropriate behavior, such as cheating or excessive disruptiveness may result, at the discretion of the instructor, in a student being dropped and/or a grade of F being recorded for the course.

STUDENT LEARNING OUTCOMES: By the end of the course, students will be able to:

- Demonstrate understanding of the theoretical foundations of linear algebra, such as vector spaces, inner product spaces, and the eigenvalue problem. May include applications from math, science, or engineering.
- Solve a linear system using appropriate methods and interpret the results.

<u>Date</u>	<u>Class Activities</u>	<u>Homework Assignment</u>
6/25	<u>Lesson:</u> Systems of Linear Equations, Row Reduction, and Echelon Form	1.1: 11-21 odd, 29, 31 1.2: 3, 7-13 odd, 15-16, 23-26
6/27	<u>Lesson:</u> Vector Equations, Matrix Equations, and Solution Sets of Linear Systems	1.3: 1, 9-13 odd, 17-19 odd 1.4: 1, 3, 9, 11, 13, 17-22, 25 1.5: 5, 11, 13-17 odd, 28-32
7/2	<u>Lesson:</u> Linear Independence and Linear Transformations	1.7: 1-7 odd, 15-19 odd, 31-39 odd 1.8: 1-19 odd, 31 1.9: 1-9 odd, 15-21 odd, 25, 27, 35
7/4	No Class – Independence Day	
7/9	<u>Lesson:</u> Matrix Operations and Inverse Matrices	2.1: 1, 3, 7, 9, 27 2.2: 1, 5, 13, 14, 16-24, 31 2.3: 1-7 odd, 13-22, 33-34
7/11	Exam #1 <u>Lesson:</u> Determinants	3.1: 3, 5, 9, 11, 15, 19-23 odd, 38
7/16	<u>Lesson:</u> Properties of Determinants, Applications of Determinants, and Vector Spaces	3.2: 5, 7, 15-21 odd, 25-26, 31, 32, 36, 39 3.3: 3, 5, 19, 21, 23 4.1: 1-3, 5-10, 13
7/18	<u>Lesson:</u> Null Space, Column Space, and Bases	4.2: 1, 5, 15, 17, 21, 24, 30-33 4.3: 3, 8, 13, 15, 20, 23-25, 33-34
7/23	<u>Lesson:</u> Coordinate Systems, Dimension of a Vector Space, and Rank	4.4: 3-13 odd, 27, 31 4.5: 3, 5, 10-11, 13, 16, 21-23 4.6: 1-15 odd, 20, 22, 28
7/25	<u>Lesson:</u> Change of Basis, Eigenvalues, and Eigenvectors	4.7: 2, 5, 7, 9, 13, 14 5.1: 1, 5-17 odd, 23-26 5.2: 3, 5, 8, 11, 13, 15, 24
7/30	Exam #2 <u>Lesson:</u> Diagonalization	5.3: 1, 5-13 odd, 16, 18, 23-27 odd
8/1	<u>Lesson:</u> Inner Product, Length, Orthogonality, and Orthogonal Sets	6.1: 5, 7, 11, 13, 17, 23, 25, 28, 30 6.2: 3-19 odd, 20, 27-28
8/6	<u>Lesson:</u> Orthogonal Projections and the Gram-Schmidt Process	6.3: 3-17 odd 6.4: 3-11 odd
8/8	<u>Lesson:</u> Inner Product Spaces and Diagonalization of Symmetric Matrices	6.7: 1-9 odd, 16, 21-24 7.1: 7, 9, 14, 17, 19, 23
8/13	Exam #3	
8/15	Final Exam	