

Cuyamaca College

Math 284 – Linear Algebra Section 9386 Spring 2019

Instructor: Dan Curtis
Class Times: TTh 12:30-1:45 pm
Office Hours: Monday 2:00 pm – 3:00 pm
Tuesday 11:30 am – 12:30 pm
Wednesday 9:00 am – 11:00 pm
Thursday 11:30 am – 12:30 pm
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MyMathLab Course ID: **curtis55638**

Prerequisites: A grade of C or better in Math 280 or the equivalent.

Text and Materials:

- **Linear Algebra and its Applications**, 5th Edition, David C. Lay
- **MyMathLab**, You will need a MyMathLab Access code since part of each homework assignment will be using MyMathLab
- A graphing calculator is required. The TI 84+, TI 89, Voyage 200 or TI-Inspire are highly recommended.

Course Description: The topics covered in this course include matrix algebra, Gaussian Elimination, systems of equations, determinants, Euclidean and general vector spaces, linear transformations, orthogonality and inner product spaces, bases of vector spaces, the change of basis theorem, eigenvalues and eigenvectors, the rank and nullity of matrices and linear transformations. This course is intended for the transfer student planning to major in mathematics, physics, engineering, computer science, operational research, economics or other sciences.

<u>Important Dates:</u>	Last day to add classes/Last day to drop and qualify for a refund and to drop without receiving a “W”	Friday, Feb 8
	Last day to file a petition for Pass/No Pass	Friday, March 1
	Last day to drop with a ‘W’	Friday, April 26
	Final Exam (Cumulative)	Tues, May 28 12:00-2:00 pm

It is the student’s responsibility to take care of any administrative procedures involved in dropping should he/she stop attending class.

Grading: Your final grade will be based on the percentage of total points you earned, using the standard scale: A = 90% and above, B = 80-89.9%, C = 70-79.9%, D = 60-69.9%, F = below 60%.

Exams: There will be three exams (each worth 70-80 points) during the semester. Exam questions will be based on the homework, and I will review the material covered on the exam during class on the last class day before the exam. No makeup exams will be given, but if you contact me **before** the day of an exam, I may be able to make arrangements for an alternate time for you to take the exam. The final (worth 120 points) will be cumulative. Cell phones, or other communication devices, are not allowed on exams. Put them in your pocket or purse. If I catch you with one out, I will take your exam away and you will only receive credit for what you have completed.

Homework: Homework assignments will partly be done through MyMathLab and partly on paper from the textbook. The MyMathLab is worth 42 points toward your overall grade and the number of points you earn will be 42 times your overall percentage as reported by MyMathLab. The paper homework will be collected on exam days and is worth 2 points from each section.

Projects: Throughout the semester, there will be projects due (each worth 20 points). The projects will consist of problems that are more interesting and involved than the typical homework and exam problems. Students are encouraged to work together on the projects, but each student is responsible for completing and submitting his/her own project.

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

- 1) Find solutions of systems of equations using various methods appropriate to lower division linear algebra.
- 2) Use bases and orthonormal bases to solve problems in linear algebra.
- 3) Find the dimension of spaces such as those associated with matrices and linear transformations.
- 4) Find eigenvalues and eigenvectors and use them in applications.
- 5) Prove basic results in linear algebra using appropriate proof-writing techniques such as linear independence of vectors; properties of subspaces; linearity, injectivity and surjectivity of functions; and properties of eigenvectors and eigenvalues.

Attendance: Good attendance is a must for success in this class. College policy states that a student may be dropped from the course for excessive absences or tardies.

My Policy: Four absences during the first four weeks or six absences during the entire semester and you may be dropped – arriving significantly late or leaving significantly early counts as half an absence.

Disability Support Services: Academic accommodations are available for students with disabilities. Please identify yourself to your instructor and to DSPS staff so that the appropriate accommodations can be ensured. DSPS is at A-300, LRC (660-4239)

Academic Honesty: Academic dishonesty of any type by a student provides grounds for disciplinary action by the instructor or college. If you cheat, there will be consequences: I may give you a zero on the assignment or a zero in the course, or other additional consequences, regardless of whether you were the giver or receiver of the cheating.

Misconduct: Disruptive or threatening behavior or any conduct that interferes with my ability to teach or another student's ability to learn will not be tolerated. Such actions could result in a warning, removal from the class or referral to the Dean for disciplinary action. Please turn off your cell phones during class.

Class Schedule

Week	Tuesday	Thursday
Wk 1 (1/28)	Intro, 1.1	1.2
Wk 2 (2/4)	1.3	1.4
Wk 3 (2/11)	1.5	1.6
Wk 4 (2/18)	1.7	1.8
Wk 5 (2/25)	1.9, Review	Exam #1, Sections 1.1-1.7
Wk 6 (3/4)	2.1	2.2
Wk 7 (3/11)	2.3	3.1
Wk 8 (3/18)	3.2	4.1
Wk 9 (4/1)	4.2	4.3
Wk 10 (4/8)	4.4, Review	Exam #2, Section 1.8, 1.9 Chapters 2& 3
Wk 11 (4/15)	4.5	4.6
Wk 12 (4/22)	4.7	5.1
Wk 13 (4/29)	5.2	5.3,
Wk 14 (5/6)	Review	Exam #3, Chapter 4
Wk 15 (5/13)	6.1	6.2
Wk 16 (5/20)	6.3	Review for Final
Finals Week	Final Exam Tuesday, May 28 12:00-2:00 pm	

STEM Achievement Center: To support your efforts to succeed in this class, I refer you to the STEM Achievement Center (H-Building). The STEM Achievement Center is a resource center that provides individual assistance in mathematics and science. Instructors and student tutors are available to answer homework questions, give confidence, and support math students. Students also have access to graphing calculators, textbooks, instructional videos, and computer tutorial programs. Computers are also available for student use. The STEM Achievement Center is open Monday through Thursday 9:00-6:00, and Friday from 9:00 am to 2:00 pm. Also, extended hours for Math tutoring is available in the Writing Center on Tuesday and Wednesday from 6:00 – 8:00 pm.

Homework

- Chapter 1.1: 33, 34
- Chapter 1.2: 23, 24, 25, 26, 27, 28, 29, 30, 31
- Chapter 1.3: 15, 21, 22
- Chapter 1.4: 15, 25, 27, 31, 32, 37
- Chapter 1.5: 25, 26, 27, 28, 35, 37, 38, 39, 40
- Chapter 1.6: 6, 8, 10
- Chapter 1.7: 23, 24, 26, 33, 35, 41, 43
- Chapter 1.8: 23, 24, 25, 27, 29, 31, 33, 36
- Chapter 1.9: None
- Chapter 2.1: 17, 18, 20, 21, 23, 24, 25
- Chapter 2.2: 8, 11, 16, 18, 23, 24, 25
- Chapter 2.3: 26, 27, 36, 37, 41a,b (If #41's results seem interesting, you might want to read the "Numerical Notes" on page 116)
- Chapter 3.1: 37, 38, 41
- Chapter 3.2: 30, 31, 33, 34, 35, 36, 41, 45
- Chapter 4.1: 19, 20, 22, 26, 30, 31, 33
- Chapter 4.2: 31, 33, 34, 35
- Chapter 4.3: 24, 25, 27, 29, 30, 31, 33
- Chapter 4.4: 20, 23, 24, 25, 26
- Chapter 4.5: 25, 26, 27, 31, 34
- Chapter 4.6: 15, 16, 29, 31, 32, 33, 37
- Chapter 4.7: 17, 18
- Chapter 5.1: 25, 26, 27, 29, 30, 31
- Chapter 5.2: 19, 24, 25, 27
- Chapter 5.3: 23, 25, 27, 30