

# Math 306 -- Linear Algebra

## Pacific University // Spring 2007

1:00-1:50 MWF in PT 204

**Instructor:** Caleb Emmons

**Email:** emmons@pacificu.edu

**Webpage:** <http://www.math.pacificu.edu/~emmons/306/>

**Office:** PT 208

**Office Hours:** 3-4 M, 11-12 W, 10-11 Th, 11-12 F. Email is always a good way to contact me. You might also find me in my office at other times; if the door is open, I'm probably not too busy to chat with you!

**Prerequisites:** Math 226 and Math 240, both with a "C" or better.

**Text:** *Linear Algebra and Its Applications* by David C. Lay, 3rd edition update.

**Plan:** Whether you're considering pure mathematics, applied mathematics, computer science, business, or just everyday life, *linear algebra* is more useful than *calculus* (Don't tell your calculus instructor)! Among our objects of study will be systems of linear equations, vector spaces, inner products, linear transformations, eigenvalues, eigenvectors, and determinants.

**Grading:** The material is weighted:

<i>Homework</i>	20%
<i>Reading Response</i>	5%
<i>Midterm I</i>	20%
<i>Midterm II</i>	20%
<i>Final Exam</i>	35%

Grades will be assigned on the scale:

$100 - 85\% = A\pm$ ,  $85 - 75\% = B\pm$ ,  $75 - 65\% = C\pm$ ,  
 $65 - 55\% = D$ ,  $55 - 0\% = F$

I reserve the right to lower these cutoffs at the end of the semester. I will give +'s and -'s at my discretion.

**Homework:** Homework will be collected on Friday each week, at the beginning of lecture. No late homework will be accepted. In computing your homework grade, I will disregard your lowest score. Completing the assignments is absolutely essential to success in this class. Homework problems in this class come in two flavors: computational and theoretical (proofs). The theoretical problems may take several attempts and sleep to solve. Therefore you must start

the assignment early, ideally working the problems from a particular section the day that it was covered in class.

You may discuss the proofs with your classmates, but *every writeup must be in your own words*. Writeups must be legible. Good mathematical writing skills are essential. In particular, every proof writeup must be written in full, grammatically correct sentences. Every sentence must begin with a (capitalized) English word, not a symbol. (See the proofs in the text for the correct style.)

**MATLAB Projects:** Computers are ideally suited to linear algebra. MATLAB is a commercial linear algebra package widely used in business and theoretical applications. More information on these projects will be distributed later. These projects will account for part of your homework grade.

**Reading Response:** On the course website you will find a (constantly updated) list of “Reading Response Questions.” These are questions that relate to the upcoming material. Ideally they should facilitate your reading of the upcoming section by highlighting important concepts and connections.

**ATTENTION:** Responses must be emailed to [emmons@pacificu.edu](mailto:emmons@pacificu.edu) no later than 11:00am on the day of class. The subject of your email should be  
Math 306 RR for <due date>

**Exams:** There are three exams in the class. No makeup exams will be given unless you have a valid excuse and make arrangements with me before the exam. The final exam must be taken during the scheduled time; please make travel plans accordingly.

**Midterm I:** *Wednesday, March 7. Covers sections 1.1-1.5, 1.7-1.9, 2.1-2.3*

**Midterm II:** *Monday, April 16. Covers sections 3.1-3.3, 4.1-4.7, 4.9*

**Final exam:** *Monday, May 14, 8:30-11:00am. Cumulative with an emphasis on sections 5.1-5.4, 6.1-6.4, 7.1, 7.2*

**Academic honesty:** Cheating is completely unacceptable. Any violation of the policies outlined in the Pacific University catalog will result in the strictest penalties possible, including, but not limited to, an “F” in the course.

**Learning Support Services:** Services and accommodations are available to students covered under the ADA. If students require accommodation, they must contact Edna K. Gehring, Director of LSS, at X2107. She will meet with students, review the documentation of their disabilities, and discuss the services Pacific offers. Contact should be at the earliest possible point in time.