MATH 206-01: Linear Algebra I
Spring 2007

Instructor: Dr. S. Cooper
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Office Hours: MF 10:30 am – 11:30 am, TR 1:00 pm – 2:30 pm & by appointment.
Correspondence: The best way to reach me is via email. However, emails will only receive a reply if they include an appropriate title and the sender's full name.

Class Times & Location: MTRF 8:10 am – 9:00 am, Building 38 – Room 218.

Required Background: MATH 143 or consent of instructor.

Course Webpage: www.calpoly.edu/~sucooper/courses_spring07/coursedetails.html & blackboard.

Textbook: *Linear Algebra with Applications*, 3rd Edition, Otto Bretscher, Pearson Prentice Hall.

Content: We will cover much of the material in Chapters 1 – 8 of the textbook.

Learning Objectives: The student should posses a working knowledge of the following:
- The concept of matrices and their role in linear algebra and applied mathematics.
- A complete understanding of linear systems $A\vec{x} = \vec{b}$, and the role of rank, subspace, linear independence, etc. in the analysis of these systems.
- Eigenvalues and eigenvectors of matrices and their computation.
- The concept of determinant and its properties.
- The concepts of vector space and linear maps.
- The role of decomposition of matrices in solving linear systems or least squares approximations.
- Special matrices of linear algebra such as triangular, orthogonal, diagonal, projection.

Homework & Quizzes: Homework questions will be assigned each lecture. Once a week (see "Dates to Remember"), either homework will be collected or a quiz will be given. It will not be previously announced which task will be performed. These evaluations will be used to check that homework is being completed and to gauge your progress with the material.

FAQ: During most classes, questions based on the previous lesson will be posed. Students will either volunteer or be chosen at random to answer. Each student will start with 20 points. If the question is answered correctly, then the student is removed from the FAQ pool (and loud applause is gained!). If a question is answered incorrectly, then 3 points will be deducted and the student remains in the FAQ pool. If a student does not attempt to answer (e.g. is absent), then 10 points will be deducted. In the end, every student will answer a FAQ. This may be an uncomfortable exercise, but a part of mathematics is thinking and presenting ideas in a calm and clear fashion. The questions asked are *not* intended to be tricky or embarrassing. Rather, this exercise is intended to motivate regular attendance, regular studying of definitions, theory, identities, and to build your confidence. Respect for others is expected.

Dictionary Project: The mastery of linear algebra requires knowing and understanding many definitions. You will be required to construct and maintain a working dictionary. This will be submitted on an announced date near the end of the quarter. *No late submissions will be accepted.*

Exams: There will be 2 in-class exams given. Also, there will be a cumulative final examination.

Calculator Policy: No calculators or other aids will be allowed during exams. All quiz and exam questions will be designed so that they can be answered without calculators.

Course Grades:	Homework/Quizzes (Best 7 out of 8)	20%
	FAQ	4%
	Dictionary Project	6%
	Exams 1 & 2	20% each
	Final Exam	30%

* At the instructor's discretion, the lower of the two exam scores may be dropped, and the weight transferred to the final. The weight of the final will not be reduced.

Missed Homework/Quizzes and Exams: There will be no make-up homework/quizzes for *any* reason. If you have to miss a homework/quiz then a grade of zero will be given and this will count as your dropped homework/quiz. A missed exam will count as zero unless alternate arrangements are made *before the test* or acceptable official documentation (such as a doctor's note) explaining the situation is presented.

Academic Dishonesty: You will be expected to submit only work that is your own. This will help us gauge your understanding, progress, and abilities for the material. If any dishonesty is caught, then a grade of F will be given in the course.

Dates to Remember (Homework/Quizzes, Exams, Final Exam, and Holidays):

Friday, April 6	Homework/Quiz 1
Friday, April 13	Homework/Quiz 2
Friday, April 20	Homework/Quiz 3
Friday, April 27	Homework/Quiz 4
Monday, April 30	EXAM 1
Friday, May 11	Homework/Quiz 5
Friday, May 18	Homework/Quiz 6
Friday, May 25	Homework/Quiz 7
Monday, May 28	Memorial Day (No Class)
Thursday, May 31	EXAM 2
Thursday, June 7	Homework/Quiz 8
Friday, June 8	Last Class
Friday, June 15	FINAL (7:10 am – 10:00 am, Building 38 – Room 218)

Expectations & Tips on How to be Successful in MATH 206:

∗ It will be expected that you are comfortable with the material from MATH 141 & 142 & 143.
∗ An essential part of the learning process occurs during class. You are expected to attend classes.
∗ Starting with the first class, study in-depth and regularly. You are expected to study *25 – 35 hours a week outside the classroom*. Thus, at a minimum you should be studying *2 hours for every one hour of class*. Read "University Expectations*"* on the course webpage for more ideas.
∗ You are expected to read the material to be covered *before* the lecture and to do the assigned exercises *before* the next class period.
∗ Be an active participant and considerate to others during class discussions (*especially for FAQ*).
∗ Do not rely on solution manuals! These are readily available and it is tempting to just copy the solutions. However, struggling through the exercises on your own is an important phase of the learning process.
∗ Get help as soon as you need it: ask questions in class and office hours; form a study group with your classmates; consider getting a tutor, etc.
∗ For exam preparation, practice exercises that have not been assigned.
∗ Everyone wants you to succeed. Please speak with me regarding any concerns you may have.
∗ Relax and have fun with the course!