

Math 208

Linear Algebra

Winter 2012

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Hours: 9:30-10:20 M-F and by appointment.

Texts: Required: *Linear Algebra and its Applications*, (Third Edition), David C. Lay

Recommended: *Study Guide*, David C. Lay

Prerequisites: Math 163 (2.0 or above) or equivalent

Topics: Vector spaces and linear transformations

Systems of equations and matrix operations

Determinants

Eigenvalues and Eigenvectors

Orthogonality and Least-Squares

Symmetric Matrices and Quadratic Forms

Objectives: Master the content of the course. Learn to write precise mathematics in complete sentences in a clear and organized manner. Begin to learn to write mathematical proofs.

Tests: There will be two tests - February 3 and March 2. These dates are subject to change. Makeups will be given only in the event of illness or emergency, provided you contact the instructor **BEFORE** the exam. No notes will be permitted.

Final: The final is on Friday, March 23, 11:30am - 1:20pm. It will be comprehensive. No notes will be permitted. This date is set by the college and cannot be changed for any reason.

Text Homework: Homework from the text is due at the start of class each Thursday. You may turn in one homework late without penalty, but it must be turned in by the start of class on the following Monday. Otherwise late homework will not be accepted.

Each homework must be stapled and include a cover sheet, containing the following information:

1. Your name and the homework number.
2. A list of the problems you did not complete or solved incorrectly.
3. A brief summary of what gave you trouble, if anything.
4. The percentage of the problems assigned that you did complete correctly.
5. Your grade on the homework, as calculated below.

Each homework is worth 5 points. Determine your grade G from the percentage, P of problems you solve correctly, by the following formula:

$$G = [(P + 10)/20],$$

where $[x]$ denotes the greatest integer less than or equal to x . Your nine highest homework scores (out of ten) will count toward your grade. You will not receive credit without a cover sheet.

Writing Requirements for Homework:

Show your work.

Use standard-size paper without tears or fringes.

Staple any work that is more than one page.

Write neatly in pencil. Do not cross out errors. If you find yourself erasing extensively, stop and start again on a fresh page.

Use a straight edge for coordinate axes. Label axes with variables names and units.

Additional Homework One or two additional problems (not from the text) will be collected each week. These are due at the start of class on the assigned days. The solutions should be written carefully and neatly with complete sentences and must include the following:

- i. A statement of the original problem
- ii. A concise explanation of your method of solution
- iii. A concluding statement that answers the original question

You will be graded on the clarity and organization of your explanations as well as on the correctness of your solutions. Late homework will not be accepted.

P/Z Option Grading: Those students choosing this option must do so by February 13th by submitting a Pass-Option Card (signed by the instructor) to the registration desk. **No exceptions will be made to this policy.**

Withdrawals: The last day to withdraw from class is February 22nd.

General Comments: This class will probably be quite different from any other math class you have taken. Some of the concepts may be rather abstract and difficult to grasp at first. To master the material, it is essential that you set aside time each day to think about the homework problems and the concepts introduced in class. You should plan on spending an average of twelve to fifteen hours per week outside of class.

Plagiarism: Any student caught cheating on a test will get a 0.0 for the course. While it is intended that you consult with one another on the homework, each student must write up her own solution independently. Should any copying occur, all students involved will receive a 0 for that homework. A student who is involved in copying more than once will receive an automatic 0 for all homework scores.

Emergencies: If school is closed for any reason, we will start where we left off when class resumes. If we were scheduled to have an exam the day school is canceled, the exam will take place the first day back at school.

Grading: The grade will be based on the following. The point distribution shown below is approximate and is subject to change.

Text Homework	10 @ 5 points each for 50 points
Additional Homework	20 @ 5 points each for 100 points
Tests	2 @ 50 points each for 100 points
Final	1 @ 100 points

The grading scale is linear and will be approximately as follows:

95%: 4.0

80%: 3.0

65%: 2.0