

Syllabus for Math 250, Section B1, Summer 2009

Instructor: Mike Neiman

e-mail: neiman@math.rutgers.edu

Office: Hill Center room 620, Busch campus

Office hours: M 2:00-3:00pm, W 1:00-2:00pm, and by appointment

Class time and location: MTWTh 10:00-11:50am, ARC 105 (May 26 – July 2)

Course webpage: <http://www.math.rutgers.edu/~neiman/250/>

Don't count on everything being posted there. You are responsible for attending class.

Text: *Elementary Linear Algebra: A Matrix Approach, 2nd Edition* by Spence, Insel, and Friedberg, published by Prentice-Hall, 2008. (ISBN 978-0-13-187141-0)

Course description: Linear Algebra is the study of matrices and vectors; of linear systems of equations and their solutions; of vector spaces and linear transformations of these spaces. The subject is very different than the material students have previously seen in calculus or pre-calculus classes. The level of the course is also different. The course is designed to not only teach students how to do computations about the aforementioned topics, but also how to handle abstract concepts, including understanding and doing proofs.

Topics: We will cover most of the material in chapters 1-6 of the text. A rough plan is the following: matrices, vectors, and systems of equations (chapter 1), about 4 classes; matrices and linear transformations (chapter 2), about 4 classes; determinants (chapter 3), about 2 classes; subspaces (chapter 4), about 2 classes; eigenvalues, eigenvectors, and diagonalization (chapter 5), about 3 classes; orthogonality (chapter 6), about 4 classes. This leaves three classes for exams and one extra for slack.

Homework: A list of suggested homework problems for each section will be distributed. Even though homework is not for credit, students are strongly encouraged to review the problems to ensure they have understood the material in that section.

Quizzes: There will be frequent (but short) in-class quizzes, not necessarily announced in advance. Many quiz problems will be similar to homework problems. There should be enough quizzes so that some will be dropped when computing the final grade.

Exams: There will be two midterm exams and a (cumulative) final exam. The first midterm is tentatively scheduled for June 9. The final exam will be given during the last class on July 2.

Calculators: The only calculators permitted for use during quizzes and exams are those capable of only basic arithmetic; scientific and graphing calculators are not allowed. (So, for example, any calculator capable of computing $\sin 30^\circ$ is not permitted.)

Makeup policy: There will be no makeups for quizzes. A makeup exam will be given only if you have a valid reason such as serious illness (not a slight cold) or a family emergency, and provide an acceptable, written excuse (not an email message). If possible (particularly if you want to be sure that your excuse is an acceptable one), contact the instructor before missing an exam.

Grading: Your grade for the course will be determined approximately as follows:

| | |
|---------------------|------|
| First midterm exam | 20 % |
| Second midterm exam | 20 % |
| Final exam | 40 % |
| Quizzes | 20 % |

Tips for success: Throughout the class, please keep in mind the following:

- Attendance is expected and crucial to your success in this class. Summer classes move at a rapid pace, and missing even one or two classes can be very difficult to overcome.
- Carefully read the relevant sections in the text. Ideally, you should read the material in the text before and after we cover it in class.
- Do the homework problems as they are assigned. Attempting, solving, and struggling with homework problems is the best way to thoroughly learn the material.
- Working collaboratively on homework can be beneficial, but it will be most helpful if you first attempt the problems by yourself.
- Be actively involved during class. Ask questions whenever there is something you do not fully understand or when you suspect the instructor made a mistake.
- If you have difficulty with a concept or problem, ask questions during the lecture, speak with the instructor after a lecture, or seek help during the instructor's office hours.