MTH 253
Syllabus

Instructor: Dr. Colin Starr
Office: Ford 213
Office Phone: (503) 370-6419
Home Phone: (503) 585-4088
e-mail: cstarr@willamette.edu

Office Hours: MWF 9:10-10:10
TTh 9:30-10:30
Th 12:40-1:40

My URL: http://www.willamette.edu/~cstarr


Goals: This is an introduction to matrix algebra and Linear Algebra. Linear Algebra is of fundamental importance in mathematics; it appears in every subject area and has wide-ranging applications outside of mathematics from business to quantum physics.

1. Students will become familiar with the concepts, methods, and terminology of Linear Algebra. Specifically, students will understand the following: (abstract) vector spaces and subspaces, linear independence and span of a set of vectors, basis and dimension, linear transformations and their matrix representations, eigenvalues and eigenvectors, and all of the tools needed to adequately discuss these topics.

2. Students will learn how Linear Algebra can be applied to other branches of mathematics.

3. Students will learn how Linear Algebra can be applied outside of mathematics.

4. Students will become familiar with Matlab for computing with matrices.

Assessment: Your grade will be computed as follows:

Take-Home Quizzes: 20%
Midterm Exams: 3 @ 20% each
Final Exam: 20%

Homework: I will assign homework nearly every class meeting. Answers and solutions for almost all problems appear in the back of the book, so I will not collect these; they are just for your practice. I encourage you to work together on the homework. Also, you are certainly welcome to do more problems than I assign!

Take-Home Quizzes: Our class time is precious; there is never enough. Accordingly, our quizzes will be take-home quizzes. Think of them as homework, but work on them alone; I will specify on each one whether you are allowed to use your book. We will have one or two each week, each with one or two problems. Quizzes will be due the next class period after they are assigned. NOTE: I will not accept late quizzes! If you can’t be there to turn one in, seal it in an envelope and ask a classmate to return it. (Or come by my office and turn it in early.)

Exams: There will be 3 midterm exams and a comprehensive final exam. Each exam will be worth 20% of your grade. Tentative dates are below.

Exam I Wednesday, February 6
Exam II Wednesday, March 6
Exam III Wednesday, April 10

The final will be from 8:00-11:00 AM on Friday, May 3.

General Info: I also want you to feel free to call me at home; my number is above. I go to bed pretty early, so please try not to call after about 8:00. Please take advantage of my office hours. I can’t help you if you won’t come see me! The times above are times I will be in my office (or nearby), but you may stop by any time during the day. If I am there and have the time, I will help you.

Final Thoughts: If you have any intention of proceeding with mathematics, learn Linear Algebra as thoroughly as you can. Every math course you take will use ideas from Linear Algebra, so a solid grasp of it will be not only useful, but essential.