

MWF 2:30-3:20 PM, King 241

- Instructor:** J.A. Walsh, King 220C
775-8387 (office)
775-8380 (messages)
(syllabus, homework assignments, handouts on Blackboard)
- Office Hours:** Monday 3:30-4:30 PM
Tuesday 9:00-10:00 AM & 3:00-4:30 PM
(also by appointment)
- Text:** B. Kolman and D. Hill, *Elementary Linear Algebra With Applications* (9th ed.), Pearson/Prentice Hall (2008). This text is required and is available at the College Bookstore.
- Homework:** Homework will be collected approximately once per week. You will be given handouts containing reading assignments and both practice problems and problems to be collected. Assignments will also be posted on Blackboard. *I urge you most strongly to try the practice problems.* You may work with other members of the class on all homework problems, but not to the extent that you copy any portion of another's work and submit it as your own.
Please note that *late assignments will not be accepted.* Your lowest homework score will be dropped when computing final homework averages.
- Exams:** There will be two take-home midterm exams and a cumulative in-class final exam. The first midterm exam will be due 8 October. The second midterm exam will be due 19 November. The final exam will be held on 16 December from 2-4 p.m. Please let me know if there is a problem with any of these dates.
- Grading:** The two semester exams each count 25% towards the final grade, while the final exam accounts for 32% of the final grade. The homework and labs will comprise 18% of the final grade.
- Expectations:** You are expected to attend class. You are expected to be seated and ready to go at 2:30 PM (I will do my best to start at 2:30 PM and finish by 3:20 PM). As a general rule, expect to put in approximately 2 hours of work outside of class for every hour of class time (thus 6 hours per week in addition to the 3 hours of class time). If you find yourself working either much more or much less than six hours per week outside of class please stop by my office to discuss possible alternatives to this course. You are expected to keep up with the homework—this course can be difficult for students who work on linear algebra once or twice per week or only before exams.
You are expected to read the text. You should read each section twice (at least): once before it is discussed in class, and once after the class discussion, but before you do the exercises. At any time during the semester you should feel free to stop by to discuss any issues related to this course.
- Honor System:** You are urged to review the Honor Code and Honor System, available, for example, on the Blackboard site for this course. You will be expected to adhere to the Honor Code and Honor System with respect to all of your work in this class.

Goals

1. Learn basic tools and computational techniques of matrix algebra and vector spaces.
2. Become more comfortable with abstract concepts in mathematics and develop skill with techniques of formal proof.
3. Explore applications.

Outline

| Topic | Chapters | Allotted time (weeks) |
|--------------------------------|----------|-----------------------|
| Linear equations & matrices | 1, 2 | 2 |
| Determinants | 3 | 2 |
| Vector spaces | 4 | 3 |
| Inner product spaces | 5 | 1.5 |
| Linear transformations | 6 | 2 |
| Diagonalization & applications | 7, 8 | 2.5 |

Mathematics is like an addiction, or a disease; you can never truly shake it off, even if you want to.

--- Ian Stewart, *Does God Play Dice?*, Blackwell (1990)

In my experience, competency in mathematics---both in numerical manipulation (Math 232!) and in understanding its conceptual foundations (Math 232!)---enhances a person's ability to handle the more ambiguous and qualitative relationships that dominate our day-to-day decision making.

--- Alan Greenspan, former Federal Reserve Board Chair