

Syllabus for Math 2270, Spring, 2002

Linear Algebra

- **Text:** The text for this course is *Linear Algebra with Applications* by Otto Bretscher
- **Instructor:** Jesse Ratzkin
 - **Office:** JWB 217
 - **Office Hours:** Tuesdays 12:00 to 1:00 and Wednesdays 11:00 to 12:30 and by appointment
 - **phone number:** 581-5231
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- **Tentative Schedule:** I should emphasize that this is very tentative. I have listed a time span in the first column, the subject in the second column, and the appropriate sections of the text in the third column.

January 7-11	systems of linear equations	1.1-1.3
January 14-16	linear transformations and geometry	2.1-2.1
January 18-23	matrix inverses and products	2.3-2.4
January 25-30	image and kernel of a linear transformation	3.1
February 27-March 8	subspaces, basis, dimension and coordinates	3.2-3.4
March 11-15	general vector spaces	4.1-4.3
March 18-26	orthonormal bases, Gram-Schmidt process and orthogonal transformations	5.1-5.2
March 27-April 3	least squares fitting, inner product spaces and Fourier series	5.4-5.5
April 5-12	determinants	6.1-6.3
April 15-19	eigenvalues and eigenvectors	7.1-7.3
April 22-26	complex eigenvalues and eigenvectors, special factorizations	7.4-7.5
April 29-May 1	discrete dynamical systems, stability	7.6

I am planning on having a total of three exams this semester, including the final (which is **Monday May 6th at 8:00 AM**). The midterm exams will be on **Wednesday January 30th** and **Friday March 29th**. In addition to regular homework assignments, I will ask you to complete 4-5 computer projects, using the medium of your choice (e.g. Maple, Matlab, or Mathematica).

- **Grading:** To assign grades, I will form a weighted sum of all the grades you receive throughout the semester. The weighting will be

midterm exams	20% each
computer projects and homework	20%
final exam	40% .

I anticipate that the median grade for this class will be around a B-.

- **Homework Policy:** I will usually grade the homework the evening that I collect it. For this reason, I don't accept homework assignments after the day they are due. However, if you can get them to me later the same day, I will accept them.

- **General Comments:** Please ask questions during my lectures. I find it very difficult to judge how well students follow the material if they don't ask me questions; indeed, in this case I often make the grave error of assuming they understand everything I say perfectly. Thus it is much better for everyone (it makes the students happier and it makes my job easier) if you stop me during lecture and ask me plenty of questions. In addition, I encourage you to come to my office hours or just drop by my office to ask me questions. Also, the Math Tutoring Center, in Mines 210 (see <http://www.math.utah.edu/ugrad/tutoring.html> for more information) is available as a study aid.

Makeup exams *might* be given in cases of extreme duress. Please keep in mind that I am much more sympathetic to your plight if you tell me you must miss an exam before it happens. In particular, I ask that you warn me about any scheduling mishaps at least two class periods in advance.

Please keep in mind that mathematics is not a spectator sport! You can only learn math by doing it, so it is imperative that you do the homework.

Good luck.