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To the students in Math 211,

I am glad you have decided to take linear algebra with me this term. I write this note to guide you a bit as to what I expect of you as a student, and give you some general advice for success. These are going to come out in a fairly random order, so bear with me.

First, as to the textbook. I chose the Schaum's series text for a few reasons. First, it is inexpensive. Second, it covers everything we could possibly get to in this semester and then some (and all the essentials). Third, it has lots of exercises for practice.

You should look around for other books to read. I won't be using just one source to prepare my lectures. (I'm sure I haven't even found all of the books that I will use, yet.) There are a great many books on linear algebra, and some of them are good. Make friends with a librarian and find some useful books to read different viewpoints on the material.

Second, some points about homework. I will assign (approximately) weekly homework. These assignments will be short, consisting of only 5-6 problems. I will endeavor to return these to you promptly so that you have regular feedback about your work. However, this will not be nearly enough to prepare you for the exams. You should do as many exercises from as many different texts as you have time for. Mathematics knowledge and skill really comes from devoted hard work. I will be happy to discuss with you any math problem you work on, from any book, though my guidance will, of course, be more on the point for problems I assign.

Third, on collaboration. Mathematics looks like a lonely discipline. I'm sure you all have pictures in your head of the crazy sage-like mathematician who works alone by candlelight, trying not to singe his "Barber, what barber?" haircut. This is only partly true. That guys spends his afternoons talking to other mathematicians, trying to learn from them. I encourage you to be

just like the scary guy—maybe with better hygiene. Work together.

The only rule on this is: prepare your own homework paper. If you really understand, you should be able to write up the answer or argument by yourself.

Fourth, on the content of this course. Linear algebra is a deeply important subject. Together with calculus, it is how mathematics applies itself to most of science. In fact, a lot of mathematics is devoted to turning hard problems into linear problems which can be attacked with linear algebra methods. However high-powered this may seem, linear algebra is first and foremost about a very mundane problem: solving systems of linear equations. The real goal of the semester is to bridge the gap from solving small systems of linear equations to the more abstract field of describing linear mappings between vector spaces (which is almost the same thing).

There is a lot of advice above. In fact, let's make a list of ideas of ways to study mathematics that seem useful to me.

- Read and work through your lecture notes.
- Read and work through your textbook and other books on the subject.
- Work problems.
- Make your own outline of course material. Include general motivation and ideas, a list of skills learned and how they apply, and specific examples showing what you know.
- Ask yourself questions.
- Make yourself a practice exam. Take it later to test yourself.
- Discuss the ideas with as many people will listen.
- Find a study group.
- Come to office hours. Make appointments.

In all of this, the point is to figure out what you don't know or don't understand a few days before the test, not during the test.

Finally, for emergencies. My cell number is 413-884-2044. If you have any

questions at any time, please come and talk with me.

Sincerely yours,

Theron J Hitchman