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To the students in Math 251,

I am glad you have decided to take discrete mathematics 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. A used book is great. A second edition book is great. I chose this text mostly because it has been used before at Williams, and I hoped you could get a decent price for a used one. I will not assign homework directly from the text, so if you find a second edition book it will be fine. We will follow the text loosely, and the material should be a good complement to lecture.

In fact, I suggest looking for other books, too. Goodaire and Parmenter is a decent book, perhaps it is a bit conversational at times, and reading the book is an important part of a successful learning experience. But you should find other books to look at, too. I will be using many sources to prepare my lectures (some of which I haven't found yet, to be sure), and you should use any reference which helps you grasp the material. So...make the librarians your friends–they love it when you ask for help (politely).

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.

Finally, on the content of this course. One way to define the content of this course is as "important basic techniques which are not calculus". It will at times seem disjointed. However, in another view this course is an introduction to mathematical thinking. We'll learn how to read, recognize and write simple proofs, and use some beautiful hands on topics to do it. I'm not sure how many of the following we'll get to, but my list of possible topics looks pretty much like the list of chapters of the textbook.

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