How to get an “A” in my class
achieving success in an upper-level undergraduate mathematics course

This is an advanced class, and as such, requires work. Active work. The good news is that this is something anyone can do – no special “math smarts” are required. Mathematics, at this level, is a matter of discipline, practice and good habits.

1. **Read the textbook**
   Our textbook (Bretscher) is particularly well written and students tend to find it helpful, even enjoyable to read. See “how to read math” below.

2. **Lectures are not a spectator sport**
   Ask questions. Answer questions – or make a guess, or answer with another question.

3. **Do (and redo) your homework early and thoughtfully**
   Problems are intended to challenge you and help you teach yourself the material. Expect to get stuck. Factor in time to sleep on a problem and get yourself un-stuck.

4. **Train like you’re at the gym**
   Solving math problems is a matter of building mental muscle. You build strength for this by training (reading, thinking, and working on problems) regularly and consistently. The more reps you do the stronger you will get. Vary the weight (i.e. difficulty) of the problems you try. Test your strength by thinking long and hard about things you don’t understand. Would you train for a marathon by running as hard as you can all night long the night before? Treat your math course the same way.

*Advice from a pro: How to read a textbook in math*

THREE STEPS!

1. **“Big picture” reading ahead**
   Before lecture, read the relevant section and ask yourself what the new big idea is. Don’t worry about the details.

2. **Question-oriented reading**
   Re-read the section carefully after lecture, paying special attention to the examples. Compare them with examples done in class. Force yourself to write down at least one question that you have. “What if” questions are especially good!

3. **Exam review**
   Return to ”big picture” reading, with your new knowledge. Write a summary of each section for yourself: what are the key concepts, definitions, and techniques? Make up one or more challenging problems using material from the section, and solve them.