

## 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 a significant amount of *work*. The good news is that this is something anyone can do – mathematics at this level is a matter of practice and good habits, and *not* “talent” or “genius”.

### 1. Read the textbook and extra readings

Suggestions: Summarize the big ideas in each section. What was emphasized in lecture? What extra was discussed in lecture? Be active in your reading – *work through the examples in the book as if they were homework problems*. What happens if you change some aspect of an example – does it still work?

### 2. Lectures are not a spectator sport

Ask questions of me, and of yourself. Answer questions – or make a guess, or answer with another question.

### 3. Do (and redo) your homework early and thoughtfully

Homework problems are intended to *challenge* you and *help you teach yourself* the material. Expect to get stuck. DO NOT PANIC. It is okay to get stuck – this is part of learning. Factor in time to sleep on a problem and try it again the next day. Come to office hours after handing in your homework to discuss the parts that you didn’t get.

### 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 – so do as many problems as you can to practice. Vary the weight (i.e. difficulty) of the problems you try. Challenge yourself 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.

### 5. Expect to spend time

The most common cause of trouble in upper-level math courses is lack of time. Expect to spend an hour or more every day – spending 10 hours once a week (typically all night long on the day homework is due!) is not particularly helpful. Remember the sports analogy (or learning a language or an instrument): regular training/practice is what builds proficiency.