

# Studying Mathematical Courses

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Some students find it tricky to adjust to mathematical classes (e.g. Eco326 or Eco385) after having taken Eco200. Here are some pointers which might be useful, although different people have different styles.

## Understanding the material

- Don't memorise. The aim is to understand the model - you cannot possibly memorise everything I can ask you.
- Play with the model. You should try to become best of friends. As with all your friends, try smacking it around. What makes the model work? What are the crucial assumptions? When will it not work?
- One key step is to go from intuitively knowing why something is true or false to being able to construct a logical argument. Try to run the explanation past a friend, perhaps in the context of a study group. Ask your friend to be skeptical: if they don't understand a step then you need to be able to explain it more clearly.
- One of the biggest problems is knowing when you really know something, and when you don't. It's easy to convince yourself your understanding is better than it is (particularly if you have a good memory). Be honest with yourself.
- Read critically. One nice thing about mathematical course is that there isn't much reading. This means you shouldn't worry if a single page takes four hours to read. When you don't understand a sentence stop and think about it. Always have a pad of paper next to you when reading and try and check that every line in an argument is correct.

## In the exam

- Don't Panic! Try to break the problem down into its component parts.

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- If you can't think how to write the answer mathematically, write it in English. In fact, providing intuition is always a good idea - if something goes wrong in your answer, I'll know whether you understand what's going on.
- Answer the question. There are two separate but related problems. First, students often miss parts of questions - yet this is just throwing marks away. Please read the question carefully (and several times) to make sure you are not missing part of it. My advice is to number each part (i.e. anything with a question mark) when reading the question and then check them off when you are done. Second, students often answer what they want the question to be (e.g. one on the last homework), not what the question actually asks. Please do not fall into this trap - I don't give marks for wishful thinking. It is better to give a half decent answer to the actual question than a perfect answer to a fictional question.