

Advice About Exams / Frequently Asked Exam Related Questions:

Common Question: I studied and still did bad on the test, what should I do different next time?

First, the most important thing in studying for the exams is that you are doing lots of problems completely on your own. The exams don't test your understanding, they test what you are able to actually do. Just because you understand what I do in class, or what a tutor is telling you, does not mean you will do well on the exams. You must intensely practice DOING problems yourself without help. The main theme of all my advice is to work problems on your own. But there are many particular reasons some students have poor performances on tests. Below I itemize and address some of these issues:

1. Issue one: Are you approaching the homework with the exam in mind?

When you do homework, you should be treating every problem like an exam problem.

- a. You only get one submission on a test, so you should only use one submission on homework. If you are regularly using more than one submission (more than a couple times an assignment), then you are not fully understanding the material and you won't do well on the exams.
- b. If you are using webassign help, or tutor help, or classmate help, or looking back in the book for most of the homework problems, then you are not fully understanding the material and you won't do well on the exams.
- c. At the end of each assignment, go back and briefly read through all the questions. Ask yourself, **could I do this if it was on a test?** Make notes to yourself of things to ask in office hours or quiz section. And think about things you can put on your notesheet that would actually help you solve these problems if you saw them again.
- d. At the end of each assignment, print off some old midterms, compare the problems you just did in your homework to problems in the old midterms. Are there any old midterm problems you now know how to do? Do you see how the homework could appear in an exam and are you ready for those types of questions?

This reviewing of homework is essential to solidifying the concepts in your mind and succeeding on the exams.

2. Issue two: Are you looking at enough problems on old exams?

There are a huge number of old questions in the exam archive. There is no reason you should not look at ALL the problems in the archive. It takes only 15-20 minutes to flip through and read every problem on every one of the old exams in the archive. I encourage you to do this, just read through all the old exams and ask yourself, "would I know how to start this on an exam?" Do nothing more at this point. When you are doing this type of studying you are just trying to familiarize yourself with the possible types of problems you might see. Make notes on your notesheet to help you identify how to start various types of problems.

In this way you can build speed of recognition and confidence. After studying like this for only a modest amount of time, you should be able to walk into the exam and know immediately when you flip the pages what concept each problem is about.

3. Issue three: Are you studying in an exam like situation?

In addition, to looking at all the problems, you also need to do several of the old exams in detail. You should sit down, by yourself, with a timer and attempt to take the test. Don't look at the solutions (reading solutions does NOT count as studying, you must be attempting the problems on your own). Just attempt the exam in an exam like situation. At the end, go through and grade yourself, how did you do, what could you have done different to better show your understanding. Come talk to a tutor, your TA, or me, and we can look through your practice exam with you. But remember; please make sure you are practicing in a situation that is identical to taking an exam.

4. Issue four: Are you showing everything you know on each problem?

Some students just need better exam taking strategies. If you know the main concept behind each problem (if you study even a bit, the main concept on each problem should be obvious), then you should know what the solution will look like. Make sure you do all the standard things!

Don't leave the problem blank. For example, if the word "tangent" is there, then find the derivative (even if that wasn't what was directly asked for). Just show everything you know.

Do things like: Give an outline for how to solve problems of this type, draw an illustration or graph for the problem, label all unknowns, find derivatives and limits as appropriate, and give the definitions of all the major terms in the problem. These are things you can always do and in doing them you may find a way to do the problem. If you're stuck on the start of a problem, but know how to do the last part, then tell the grader that (write a sentence), and show whatever you can show.

5. Issue five: Are you checking your work and algebra?

If you are using several submissions on webassign because your algebra is wrong the first and second times, then you won't do well on the exams. You need to learn to check your algebra yourself, comparing your start and end and checking line-by-line. This is a very important skill to be practicing on the homework!

Typically a good way to check your work is to compare your final answer with the first line of the problem. If you are solving an equation and you get $x=5$, then does $x = 5$ work in the original equation? Wherever possible look at your work forward and backward, meaning when you do some algebra to simplify, make sure that it is correct that the two expressions (the original and the new expression) are the same. Don't do an algebraic step unless you are absolutely sure it is legal (student really get themselves into trouble when they start making up algebra that isn't true).

Also, if this is your issue, then you need to do a better job practicing on the homework. Focus on getting your answer correct on the first submission in webassign. Practice being carefully when you write out your solutions to your homework. Get help from a tutor, a classmate, your TA, or me, whenever you realize that there is a bit of algebra that you keep messing up, we can give you a quick refresher.

6. Issue six: Are you giving yourself enough time?

Cramming the night before the exam is typically not effective.

You need to finish your homework extra early the week before the exam.

Then you need to spend at least one intensive night studying old exams at least one week before the test. That is, you should work through at least one old midterm at least 7 days before your test. This is a very effective and efficient way to study. Then you will have at least seen some old midterm problems and practiced a little bit, so that when I review it will make more sense to you. And you will be giving your mind more time to think about the main concepts for the test.

Comment Question: Due to a family issue or stress or sickness or whatever, I did extremely poorly on exam 1, but I did well on exam 2 and the final, is my grade still doomed by exam 1?

No! I do look at improvement for everyone. I don't need to give all the details here, but I can say that if you do very well on one midterm and very well on the final, then you can get a good grade (above 3.0), even if you have one really bad midterm exam score. So one poor midterm score does not doom you to a low grade in the class. But you have to do well on the other midterm and on the final. Although, if you want a top grade (3.4 and above), you really need to do well on all the exams.

The syllabus answers most other common questions and outlines the policies for the course. Please first reread the syllabus if you have more questions. Then let me know if you have any more questions, I am happy to share my advice with you and discuss your questions.

I think that gives you plenty to think about and try. I look forward to working with you this quarter.