

Study Tips for Linear

Student #1: I've been doing the following:

1. Pay attention in class-- take notes, participate, and try to follow everything to the best of my ability.
2. Spread the material over longer periods of time-- I start working on homework assignments relatively early and try to do them slowly so that I can comprehend the material to the best of my ability. As I solve them, I often use your website for reference, whether I'm using the different math tables, or your lecture slides.
3. I've been working with our class tutor, James Allen, ever since he became available for us.
4. I've been watching every recorded study session and/or recorded lecture you've been sharing with the class and even watched some of them for a second time if I had enough time and felt like I could use the extra practice.
5. I've been studying with a classmates before exams, mostly reviewing practice problems from your website.
6. I've been doing my best staying organized with my notes and mentally thinking about the topics we've been covering and trying to connect the dots as we go.

Student #2: ECE 4330 Linear Systems and Signals – Study Strategies

Note: The key idea, as explained by Professor Hassoun during class, is to **start early**, as the material, by nature, can be challenging and requires consistent practice. Invest more time up-front to review the material and you will understand more and spend less time cramming.

1. **Study each lecture in-depth**, soon after the complete lecture is covered in class. Going through the material a second time helps to solidify the ideas covered.
 - a. Focus on the main ideas and how they build off previous lectures, as this helps in learning the material more effectively.
 - b. Practice a handful of the “Your Turn” problems.
2. **Practice the weekly Study Session problems**, soon after the material is covered in class.
 - a. This is a great way to regularly practice problems on a weekly basis.
3. **Test your conceptual understanding**.
 - a. Check if you understand the relationships between concepts and the different ways to solve a problem.
 - b. For instance, ask yourself what are the different methods to solve for $y_{zero_state}(t)$ and do I know the high-level steps of each?
 - i. Solve for $y(t)$ with initial conditions equal to 0
 - ii. Convolute $f(t) * h(t)$ using the convolution integral
 - iii. Convolute $f(t) * h(t)$ using the convolution table
 - iv. Use the Laplace inverse method: $L^{-1}[F(s)H(s)]$
4. **Practice solving the same problem using different methods**.
 - a. For example, if you are asked to solve for the impulse response $h(t)$ using the direct method, try solving with the alternative method afterwards and check if you acquired the same answer.
5. **Practice as many problems as possible**, as the exam approaches.
 - a. Solve problems from the following:
 - i. Sample Exams
 - ii. “Your Turn” problems
 - iii. Study Sessions problems
 - iv. Problem sets on the “News” page
 - v. External problems: Lathi Textbook, Imperial College Online, etc.
 - b. Some of these problems are challenging and can be difficult to obtain the exact answer, however, practicing them still reinforces the method to solve.

Student #3:

Studying Tips for ECE4330

Starting from the beginning of the summer until now, I have been writing my own notes on the course material based on the lecture notes provided on Dr. Hassoun's website for this course. Starting in the summer is not necessarily needed if you stay consistent with notetaking from the beginning of the semester instead, but I have found that this has better prepared me for the course and allowed me to get a bit ahead, which has made studying easier. Not everything makes sense at first when note-taking, but the gaps can later be filled in the lectures and/or by doing practice problems/asking questions. This allows you to actively employ the concepts you began learning by taking notes (passive) and consistently reinforces the material. Additionally, if nothing else, it provides something easily accessible that you can refer to later on when you are studying or completing assignments.

On that note, for assignments, I always use the lecture notes along with the notes I took myself to help me figure out the problems. I try to break down each problem into the different concepts it requires to solve it (properties I need to use, the form my answer should be in, concepts I must consider for my answer, etc.). I also analyze the examples in the lecture notes and try to apply a similar process from those to the assignment problems. Usually, the homework questions are harder than the examples in the lecture notes, but this is still helpful for getting at least a bit closer to figuring out the problem.

When it comes to studying for exams, starting early has been huge in helping me to be more successful. There is a lot of material to cover, so giving myself at least a week in advance to study has been very beneficial, especially if I end up having any questions as I review. I begin studying by making sure my notes are up-to-date (for example, if I last took notes on lecture 15, but the exam is on lectures 10-17, I will take notes on 16 and 17) for the reasons listed previously, and because it helps familiarize me with the concepts I can expect to be on the exam. Next, I aim to solve as many practice problems as I can find. I use the study session videos that Dr. Hassoun sends through email and do all the given practice problems from the PDF created during the session by myself first. After, I check my work by watching the video. If I don't know how to start a problem, I watch the beginning of the solution, then I try to continue solving the problem by myself. I also do the problems from any practice exams or quizzes that Dr. Hassoun provides on his website, as well as the assignment problems. In all of this, I check in with myself at the end of the problem to make sure I understood all of the steps I took to find the solution. If I made a lot of mistakes, particularly ones where I don't fully understand why what I did was wrong, I go back to the lecture notes/my notes and review the concepts I messed up. If necessary, I sometimes search for YouTube videos that cover the concepts to further strengthen my understanding. All in all, practice problems are the best way to study for me. Note-taking is an important preliminary step, but it is ultimately a passive technique – practice problems are where the concepts begin to click since I am using them to solve the problems,

where the gaps in my understanding become clearer to me so that I may address them, and where I start to actually feel prepared for the exam if I can do the problems myself.