

E84: Final Exam Study Sheet

You are expected to know the following for the exam:

- ANYTHING that was fair game for the first two midterms
- Solving circuits with real diodes in it
- Using diode models
- i-v characteristic curves/load lines
- BJT, JFET and MOSFET transistors
 - operating modes
 - basic equations
 - analyzing circuits containing these devices

Transistors:

Keep in mind that we only had one homework on transistors, so I expect you to have learned this material from the two lectures, the homework and doing examples and problems yourself. PLEASE come see me if you want help doing this and I'll be happy to go over examples during review sessions, etc. Real diodes and transistors will make up no more than 25% of the exam.

General comments:

At this point, you have learned about many circuit analysis techniques and circuit elements. You know the rules that dictate the behavior of these elements. You should be armed to analyze most circuits and you will be tested on this ability. Unlike the first two exams, there may be a couple of questions with more complexity. There will be some questions that test some of the basics, others that will stretch your thinking and perhaps, at first glance, don't seem like something you've seen before. But, all problems will be solvable using the tools we've learned in class. I will be doing my best to make sure that time is not an issue. There will be 8-10 problems. I can't stress this enough – it is important that you show what you know and aim to at least try all of the problems!

Exam structure:

The final exam will be three hours, closed book, closed notes. Again, you will be allowed TWO 8.5inch-x-11inch equation sheets. These sheets should only have equations or rule descriptions. Meaning, solved circuits are not allowed on the sheet. Circuits with simple voltage divider/current divider equations next to them are acceptable. Your sheets will be turned in with your exam.

You can bring a calculator for doing simple arithmetic. The calculator can NOT be used for solving equations, partial fraction expansions, storing formulas, doing complex math automatically, etc. Basically, it should be able to do simple arithmetic, squares/square roots and arctans. If you're wondering if you're allowed to use your calculator to do something, the answer is probably no.

Studying:

The final from last semester has been provided (posted online). I will be happy to confirm answers and discuss problems after you've attempted them.

My availability: I'll be available over email and will hold office hours on Wednesday and Thursday next week. I apologize for not being available live over the weekend or early next week.

Final exam times:

Anyone else wishing to take it early should contact me and we will set up a time on Thursday. Dec. 21st at 9am in our normal classroom and you will be allowed to work beyond the three hour allotted time if you so desire. I will probably cut you off after 4 hours and 15 minutes.