



- Instructor: Neil E. Cotter, 3104 MEB
Office Hours 10:30-11:30 (might change for review sessions)
necotter@ece.utah.edu
(email is checked only once, very late, each business day)
- Required Text: Practical Electronics for Inventors
Paul Scherz
- Required Software: *Student Edition of Matlab*® (Available from Bookstore)
- Required Notes: Available from Bookstore as a packet or on class website.
- Website: <http://www.ece.utah.edu/eceCTools/ECE1250/>
Avoid using the website as a substitute for going to class. Your success is highly correlated with attendance, and all announcements made in class are binding.
- Lab Supplies: 1) Lab notebook (bound or spiral, not binder that allows pages to be inserted).
2) Breadboard and lab parts available for purchase from stockroom (next to lab)
There are no labs the first week of class.
- Class Objectives: 1) Introduce students to the basic concepts of Electrical and Computer Engineering in a way that relates to objects and devices that they have personally touched, used, and hopefully, been curious about. I'd like to try to recreate some of the experiences of "taking things apart and seeing how they worked" which led many of us into electrical engineering.
2) Teach these concepts with sufficient rigor that students are not deceived into thinking that ECE will be an easy major and that this class is still a meaningful part of the curriculum.
3) Touch on most of the major areas of ECE in such a way that students come away with an idea of what they would like to pursue, specifically relating each subject of this class to other classes that may be taken later.
4) Provide an introduction to Matlab®.
- Class Philosophy: Learn the concepts rather than the formulas. Work at understanding how and why circuits work as they do. In lab, think carefully about what you are supposed to learn from each task assigned. Ask yourself "what did the instructor want me to learn from doing this?" And when you obtain a result, find a way to check whether it makes sense.

Course Components

- Lectures:** Three lectures per week.
Lectures set the direction and tone of the class and cover more than the written material. You will be held accountable for everything discussed in the lectures, so your attendance is important.
- Textbook:** The course textbook contains the basic theoretical material we cover in this class at an introductory level and in a way that develops an intuitive feel for the concepts. Beyond that, it also covers a great deal of practical, useful information that isn't found in most textbooks. It should prove to be a good reference for you to have on your bookshelf. Unfortunately it contains many errors (See: <http://www.eg.bucknell.edu/physics/ph235/> and download the errata pages).
- Homework:** Due at 5:00 p.m. on day indicated in syllabus.
No late HW accepted without arrangement before due date.
Turn in: locker 3rd floor MEB near southeast stairway.
- I assign many problems for you to turn in, most of which will come from hand-outs. Expect homework for almost every lecture. Homework is your main study tool. As such, I'll give you all the answers so that you can check your work immediately. In fact, you'll have to self-correct your homework. If you can't get the answer, check the web site for corrections, study some more, come to a problem session or the tutoring center, ask for help, or see the posted solutions. Sometimes I even post solutions before the homework is due. To ensure that you do the homework, I require that you hand it in.
- Your homework should be neat and clear and show all your work. For most problems the grader will simply check to see that you've done it and that your paper shows the necessary work to get the answer. Only a few problems will be checked in greater detail. You may collaborate with others to learn how to do the homework, but you must write down your solution in your own hand.
- You will probably learn more from doing the homework than any other part of this class. If you thoroughly understand the homework, you will know what the class is about, and the exams will be easier for you.
- Solutions will be posted in a glass case near the ECE office (3280 MEB). Graded homework, lab work, and exams will be returned to a numbered folder assigned to you in a file cabinet in the student mail room, MEB 3269. If you do not wish to receive

items in this fashion, remove your file folder and give it to me. You will then have to come to my office and ask for it.

Exams: No exam make-ups without consent of instructor before exam. Make-up exams will be oral exams working problems similar to the in-class exam on a whiteboard while answering the instructor's questions. Exams are closed-book, (unless otherwise specified), so that emphasis can be on basic concepts rather than calculations and formulas. Calculators are allowed, but no electronic devices capable of communicating with other devices are allowed.

Midterms: You will take four 50 minute midterms throughout the semester. They will cover material up to the time of the test. My exams are designed to see if you learned concepts and problem solving strategies and whether you can work with them, sometimes in new and different ways. Exams also cover what you learn in the labs.

Final Exam: The final will last two hours and be comprehensive with greater emphasis on the most recent material. (See class Schedule for time of exam.) Every student must take the final exam at the time appointed by the University. You must be present for the final exam and take it with the rest of the class.

Class Email: Check your official U of U email each day for announcements relating to the class. You will be held accountable for the information in the emails.

Labs: Lab will be held every week after the start date listed in the Calendar, including the last week of class. Many of the subjects covered in lab aren't covered anywhere else in class, so make sure you pay attention and read the lab instructions. You will have to keep a laboratory notebook as a requirement of the lab. Your lab TA will collect and grade these notebooks (or copies of them, if necessary).

All lab work must be done in the lab under the supervision of your lab TA. You must have the lab TA initial or grade your notebook before leaving the lab each week or you will not receive credit for that lab. You must do your own labwork as specified by the course instructor and your lab TA.

Labs are not optional. For each lab that you miss or fail (< 60% score), your final grade will suffer approximately a half-letter drop (5% of possible points). You must make prior arrangements with the lab TA to make up labs you miss, and your request may be denied if you ask to miss too many labs. The TA has complete discretion in this matter.

Schedule: Refer to the course Schedule and the course Calendar for information about due dates of homework and labs. This information is subject to modification by announcements in class or by information sent via email or by changes in the online versions of the schedule and calendar.

Grades

	<u>Points</u>	<u>% of total pts</u>	<u>Course Grade</u>
Homework	150	>93	A
Labs	150	90-93	A-
4 unit exams	400	87-90	B+
Final exam	<u>200</u>	83-87	B
Total	900	80-83	B-
		77-80	C+
		73-77	C
Missed lab	-45 points	70-73	C-
Failed lab	-45 points	67-70	D+
		63-67	D
Cheating	-900 points	60-63	D-
		<60	E

Last day to drop:	Wed, January 16
Last day to add or elect CR/NC option:	Tuesday, January 22
Last day to withdraw:	Friday, March 1
Last day to reverse CR/NC option:	Friday, April 19

Students who are exploring the EE major and are unsure about their ability to perform may wish to consider the CRedit/NoCredit option. This option must be specified when registering for the class. If you change your mind and decide you do want a letter grade later on, you must reverse the CR/NC option on your own before the last day that is allowed.

Cheating: Any form of cheating will result in an "E" grade.

Equal Access: The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the instructor and to the Center for Disability Services, 162 Olpin Union Building, 801-581-5020 (V/TDD) to make arrangements for accommodations.

All written information in this course can be made available in alternative format with prior notification.

See separate handout on College of Engineering Guidelines for more information.