

ECE 2210

Electrical Engineering for Nonmajors Spring 2019 Class Syllabus

Instructor: Arn Stolp
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E-mail: arnstolp@ece.utah.edu (I rarely check my e-mail, so let me know by some other method if you send me email that I need to read.)
Office hours: My "office hours" are the problem sessions. Otherwise, it's catch me if you can. I'm usually around until at least 2:00 p.m. M, W, & F. If I'm not in my office, check the lab. To increase your chances, talk to me in class to say when you'd like to see me. I teach another class right after this one M, W, F.

Web Site: <http://www.ece.utah.edu/~ece2210/>

Required books and lab supplies:

Practical Electronics for Inventors, 3rd or 4th Ed, by Paul Scherz

6 required class material packs (available on website) & Ring binder

Lab notebook (bound or spiral)

Breadboard & Lab parts available for purchase at lab (~\$16 on your U-card)

Prerequisites: MATH 2250 and PHYCS 2220

Introduction:

In case you haven't noticed, you're surrounded by electrical and electronic devices. Electrical motion, measurement and control are powerful and cheap, so they're used everywhere and are part of every technical career, including yours. Maybe you can find a job where other people make all the decisions concerning wiring, power distribution, electric motors, communications systems, instrumentation, and control; but do you *really* want that? Do you really *want* to be the clueless one?

ECE 2210 will introduce you to some of the basics of electrical engineering. This may not seem important now, but I think you will find these concepts very useful in your future classes and jobs. Besides, they'll help you pass the FE exam, and that should be of immediate concern.

I teach concepts and the use of those concepts to solve problems, not formulas and memorization. The hands-down easiest way get a good grade in this class is to learn those concepts.

This class consists of:

Lectures: W & F 9:40 -10:30 am in WEB L103

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.

Problem Sessions: M 9:40am in WEB L103 & W _____ in _____

We cover a lot of material in this class and there is rarely enough lecture time to work examples or to answer your questions in detail. I will not cover new material in the problem session, so you can get by without coming, but I think you'll find it worth your while.

Textbook:

The text contains a great deal of practical, useful information beyond the theoretical material we cover in this class. It should prove to be a good reference. The reading page numbers are for the 3rd edition (4th edition page may be a little different).

Supplementary Packets (in place of class handouts):

I've supplemented the textbook with packs of class material which you will download from the class web site (<http://www.ece.utah.edu/~ece2210/>). You should have received a class email with links. The packets are separated into class notes, homework assignments, and lab instructions. The packets available now will cover the first half of the class, additional packets will be available in March. Much of this material is also available individually on the web site. You will probably want to print much of this material. You can sign on to computers in the lab with the same user name and password you use (or can get) in the Engman computer lab (the one in WEB, floor L2). Then you can use the printers in the lab. The packets are designed to be printed on both sides of the pages. Please conserve paper and weight in your backpack.

Homework, homework, and more homework: 100 pts.

Expect a homework assignment for each lecture, to be turned in twice-a-week, usually on Mondays and Thursdays, all from the Homeworks packet. Homework will be 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 the problem session, ask for help, or see the posted solutions. Sometimes I even post solutions *before* the homework is due. So, you might ask, "Why is it handed in and 'graded'?" Well, to answer a question with a question, "Would you even do it otherwise?"

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 enough 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 will need to hand in your own work. Copying or allowing another student to copy your work is considered cheating.

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 should give you no trouble.

On the 2nd floor of MEB, in center hallway, you'll find some lockers with slots in the doors. Drop your homework in the ECE 2210 HOMEWORK locker by 5:00 p.m. of the due date. I will accept *some* late homework for *some* credit. Bring it directly to me, and don't do it habitually. Solutions will be posted in a in my office window. Graded homework, lab notebooks and exams will be returned to a file cabinet in MEB 2101 according to a folder number you will receive later. Once you get your number, you should write it on the upper left-hand corner of everything you hand in. Your material will be an unlocked

drawer and will **not be secure**. If you want your material returned to a locked location, simply remove your file and slip it under my office door.

Midterms:

300 pts.

You will take three 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. Don't try to memorize formulas or specific problems. Exams also cover what you learn in the labs. All exams are closed book, closed notes, no phones, tablets or computers allowed. The class may be split into two or more rooms on exam days, listen in class for details.

Final: Thursday, 4/25/19, 8:00 -10am

180 pts.

The final will be comprehensive with greater emphasis on the most recent material.

There will be a review Wednesday, 4/24, 1:00pm probably in WEB L103, listen in class for details.

Labs: MEB 2265

120 pts.

Lab will be held every week, beginning the second week and 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.

Two labs will be replaced by a special lecture during lab time.

Labs are **not optional**. For each lab that you miss or fail (< 60% score), your final grade will suffer a **half letter drop** (5% of possible points). Be sure to make-up any labs you miss or fail.

Grades:

	<u>Pts</u>	<u>% of total</u>	<u>Grade</u>
Homework:	100	> 93	A
Labs:	120	90-93	A-
Midterms:	300	87-90	B+
Final:	180	83-87	B
Total:	700	80-83	B-
		77-80	C+
Failed lab:	-35	73-77	C
		70-73	C-
Cheating:	-700	67-70	D+
		63-67	D
		60-63	D-
		< 60	E

If you want any deviations from the normal requirements (say credit for labs, you've done before) you will need to see me before the work would normally be due and get an agreement *in writing*. You'll need to turn in your copy of the agreement with your final, so I'll remember to grade you properly.

COLLEGE OF ENGINEERING GUIDELINES

Spring Semester 2019

Americans with Disabilities Act (ADA)

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you need accommodations in a class, reasonable prior notice needs to be given to the instructor and to the Center for Disability Services, 162 Olpin Union, 581-5020 (V/TDD) to make arrangements for accommodations. All written information in a course can be made available in alternative format with prior notification to the Center for Disability Services.

Adding Classes

Please read carefully: All classes must be added within two weeks of the beginning of the semester (deadline: Friday, January 18, January 11 for session I). Late adds will be allowed January 19-28, requiring only the instructor's signature. Any request to add a class after January 28, will require signatures from the instructor, department, and Dean, and need to be accompanied by a petition letter to the Dean's office.

A \$50 FEE WILL BE ASSESSED BY THE REGISTRAR'S OFFICE FOR ADDING CLASSES AFTER January 28.

Withdrawal Procedures

See the web page for details: <http://registrar.utah.edu/academic-calendars/>

See the Class Schedule or web for more details. Please note the difference between the terms "drop" and "withdraw". Drop implies that the student will not be held financially responsible and a "W" will not be listed on the transcript. Withdraw means that a "W" will appear on the student's transcript and tuition will be charged.

Drop Period – No Penalty

Students may DROP any class without penalty or permission until Friday, January 18, 2019.

Withdrawal from Full Term Length Classes

Students may WITHDRAW from classes without professor's permission until Friday, March 8, 2019.

Between January 19 and March 8, a "W" will appear on the transcript AND tuition will be charged. Refer to Class Schedule, Tuition and Fees for tuition information..

Withdrawals after March 8 will only be granted due to compelling, nonacademic emergencies. A petition and supporting documentation must be submitted to the Dean's Office, 1602 Warnock Engineering Building. Petitions must be received before the last day of classes (April 23, 2019).

Withdrawal from Session I & Session II

See the web page for details: <http://registrar.utah.edu/academic-calendars/spring2019.php>

Repeating Courses

When a College of Engineering class is taken more than once, only the grade for the second attempt is counted. Grades of W, I, or V on the student's record count as having taken the class. Some departments enforce these guidelines for other courses as well (e.g., math, physics, biology, chemistry). Attempts of courses taken at transfer institutions count as one attempt. This means a student may take the course only one time at the University of Utah. Courses taken at the University of Utah may not be taken a second time at another institution. If a second attempt is needed, it must be at the University of Utah. Please work with your department advisor to determine the value of repeating courses. Students should note that anyone who takes a required class twice and does not have a satisfactory grade the second time may not be able to graduate. It is the responsibility of the student to work with the department of their major to determine how this policy applies in extenuating circumstances.

Appeals Procedures

See the Code of Student Rights and Responsibilities, located in the Class Schedule or on the UofU Web site for more details

Appeals of Grades and other Academic Actions

If a student believes that an academic action is arbitrary or capricious he/she should discuss the action with the involved faculty member and attempt to resolve. If unable to resolve, the student may appeal the action in accordance with the following procedure:

1. Appeal to Department Chair (in writing) within 40 business days; chair must notify student of a decision within 15 days. If faculty member or student disagrees with decision, then,
2. Appeal to Academic Appeals Committee (see <http://www.coe.utah.edu/current-undergrad/appeal.php> for members of committee). See II Section D, Code of Student Rights and Responsibilities for details on Academic Appeals Committee hearings.