

UNIVERSITY OF UTAH
Department of Electrical and Computer Engineering
ECE 2280 Fundamentals of Engineering Electronics
Syllabus

Prerequisites: MATH 2250, PHYCS 2220, and ECE 2270

Lecturer: Professor Angela Rasmussen
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Website: <http://www.ece.utah.edu/~ece2280>

Textbook: Sedra and Smith, *Microelectronic Circuits*, 6th edition

Course Objectives:

- Understanding of signals and frequencies (Bode Plots)
- Characteristics, analysis, and design using operational amplifiers
- Characteristics of diodes, BJTs, and FETs
- Analysis and design of diodes, BJTs, FETs in electronic circuits
- Efficient at using PSPICE
- Become a better problem solver

Lecture: It is essential that you attend the lecture and take complete and accurate notes. Not all material given in lecture will necessarily be from the text. You are responsible for all topics, discussions, handouts and announcements made in class.

Homework: Assignment due dates are noted in the tentative schedule and due in the lockers located on the 3rd floor of the MEB by 5pm on the day noted. **No late assignments will be accepted.** However, your lowest homework grade will be dropped. If you plan on being absent on a day that a homework set is due, you may either turn it in earlier or have a friend turn it in for you. **Homework will not be accepted late.**

Although collaboration with fellow students on homework assignments and studying is encouraged, you will benefit most from the homework if you attempt to do the problems before consulting with your friends. While it is perfectly reasonable to discuss your approach to solving the problems with a friend, the final write-up of the solution must be your own work. Copying or allowing another student to copy your work is considered cheating.

Homework will be your main study guide. Therefore, think of it as preparation for each exam. Please write clearly, show all of your work in an organized manner, put problems in the proper order and staple each homework set. Make sure you understand all of the homework.

The homework problems will be graded only for correct answers and basic approach. A homework solution displaying both a correct approach and correct answer will receive 1.5 points. The correct approach is worth 1.0 points, and the correct answer will receive 0.5 points. Detailed grading will be left to the student. Solutions to the homework will be posted on the course website soon after the homework is due.

Weekly Quiz: Almost every Wednesday at the beginning of class, there will be a quiz. The quiz will cover material from class, lab, and homework. **No make-up quizzes will be given.** However, your lowest quiz score will be dropped. **Open book/notes.**

SPICE Projects: Three computer simulation problems will be assigned during the semester. One letter grade (10% off grade) will be dropped per day late or per weekend that the completed project is late. After 5 days, the completed project will be given 25 points.

Exams: Three exams and a final will be given as noted on the class schedule. Exams will be **closed notes and book**. You will be allowed 1 sheet (8 ½ by 11) front and back of handwritten notes for each exam. The final will be broken into 3 parts. The final is optional. If the final is not taken, the midterm exam scores will be used to calculate the final grade. If the final is taken, that exam will be used to calculate the final grade. The first part corresponds to the material of the first exam. The second part corresponds to the material of the second exam and similarly for the third part of the final. You will be allowed 1 sheet for the each part of the final. In NO CASE will make-up exams be given unless the student obtained approval from the instructor PRIOR to the time of the exam. In emergency situations, students will be expected to produce a doctor’s certificate indicating the nature and time of the medical emergency.

Labs: Lab will be held every week. Many of the subjects covered in lab aren’t covered anywhere else in class, so make sure you pay attention and read the lab handouts. You will have to keep a laboratory notebook as a requirement of the lab. Your lab TA will grade these notebooks.

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

Grading: Your final grade will be determined based on the homework, weekly quizzes, spice assignments, midterms, and final exam. Your lowest weekly quiz grade and your lowest homework grade will be dropped. Your grade will be calculated with the following distribution:

1st:

Homework – 9% (lowest score dropped)

Quizzes – 7% (lowest score dropped)

Spice – 9%

Lab (experiments/projects) – 15%

3 Exams – 60%

Grades: Your score will determine your grade as follows:

| | |
|-----------|-----------------|
| A+ | 97 - 100 |
| A | 94 - 96 |
| A- | 90 - 94 |
| B+ | 87 - 90 |

| | |
|-----------|----------------|
| B | 83 - 87 |
| B- | 80 - 83 |
| C+ | 77 - 80 |

| | |
|-----------|----------------|
| C | 73 - 77 |
| C- | 70 - 73 |
| D+ | 67 - 70 |

| | |
|-----------|----------------|
| D | 63 - 67 |
| D- | 60 - 63 |
| F | <60 |

Each student must do his/her own work. Copying from other students or allowing other students to copy on homework, quizzes, SPICE assignments, or exams is cheating. It is not tolerated and will result in a grade of “0” for the assignment/exam and possibly an automatic “F” for the course and may be referred to the University Judicial Procedures office. If you observe cheating at any time, please come and talk to me or the proctor about it.

Americans with Disabilities Act Information:

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, 581-5020 (V/TDD) to make arrangements for accommodations.