This course introduces you to the wonderful world of electrical engineering. In ECE2A we will develop the circuit analysis tools and theorems that will be needed for more advanced solid-state circuits and systems encountered in 2B-C and beyond. Topics to be covered include Ohm's law, basic circuit elements (resistors, capacitors, inductors) and combinations, dependent and independent sources, Kirchhoff's laws, Thevenin/Norton theorems, operational amplifiers (op-amps), single time constant circuits, and AC (sinusoidal) steady-state circuit analysis.

The Lab is an extremely important part of the course. Except for the first and last week of the course, you will be in the lab every week of the quarter. The same will be true in ECE 2B and 2C. Labs will be done with a single lab partner, or in rare cases individually (with prior approval by the instructor). UCSB can no longer provide electronic components to ECE 2 students for free, so each lab group will need to purchase supplies before in lab in the ECE shop on the 1st floor of Harold-Frank Hall. You are responsible for obtaining these components on your own; it is not the TA’s responsibility to do this for you. The ECE shop has also prepared a small tool kit for ECE 2 students which you should purchase at the beginning of each quarter.

All course materials including labs and weekly homework assignments will be posted on the web site listed below. There will be one mid-term and a comprehensive final exam.

### Prerequisites:
Math 3A-B-C, Math 5A† and Phys 3† or 23† († may be taken concurrently)

### Time and Place:
TR 2:00-3:15 PM, Buchanan 1940

### Instructor:
Ilan Ben-Yaacov, x5295, ESB Rm 3221D, ilan@engr.ucsb.edu

### Office Hours:
Wed 11:00am-1:00pm in ESB Rm 3221D

### Textbook:

### Web Site:  
[http://my.ece.ucsb.edu/ECE2A](http://my.ece.ucsb.edu/ECE2A)

### Homework:
Weekly homework assignments, due by 5pm on the posted due-date in the course homework box in HFH. *Late homeworks will receive zero credit.*

### Laboratory:
Weekly lab experiments conducted in groups of two students. No groups of three or more will be allowed. All students must keep a lab notebook and submit a brief Lab Report, due at the start of the following lab. Report grades will reflect clarity and organization and also personal conduct during the lab session.

### Exams/Quizzes:
A mid-term exam and a comprehensive final will be administered.

### Grading:
Tentative breakdown, subject to change:  
- Homework: 20%
- Midterm Exam: 20%
- Laboratory: 30%
- Final Exam: 30%

### TAs/Grader:
- Elaheh Ahmadi: elahed@umail.ucsb.edu [GRADER]
- Steve Gates: sgates@engineering.ucsb.edu
- Anthony McFadden: anthonymcfadden@umail.ucsb.edu
- Melika Payvand: melika01@umail.ucsb.edu
- Michael Strack: mjstrack@umail.ucsb.edu
- Jonathan Suen: jsuen@ece.ucsb.edu
- Derek Wung: dwung@umail.ucsb.edu

### TA Hours:
See Class Web Site