

ECE 2B - Syllabus

This is the second quarter of your introduction to electrical circuits, devices, and systems. In this course we will build on the foundation of circuit theory developed in ECE 2B, introducing Laplace transform methods as a unified way of dealing with transient and AC analysis problems, and building towards more complex circuits and stimuli. We will also introduce diodes and transistors to your toolbox of circuit components. In 2B we will use relatively simple phenomenological models for the transistor as a current- or voltage-controlled current source, and use this to understand low-frequency electronic switching and basic digital logic functions. The weekly lab session will also include practical modules (e.g. a dual-voltage power supply) that will be used next quarter in the construction of a larger system. Our goal for the course is three-fold: 1) Introducing more advanced circuit analyses techniques and electronic devices; 2) providing hands-on experience in the lab by constructing important and commonly encountered circuits and modules; and 3) to have fun doing it! ECE 2B should be an interesting continuation of the groundwork begun in ECE 2A.

Instructor: Bob York
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Office Hours: TBA

Class Hours: TR 11:00-12:15 PM, NH 1006

Textbooks: Texts for the course:

- The Analysis and Design of Linear Circuits, 5th Edition, by Thomas & Rosa Wiley: New York 2006, ISBN: 978-0471760955
- Microelectronic Circuits, 5th Edition, by Sedra & Smith Oxford University Press, 2003 ISBN: 978-0195142518

Web Site: Nearly all course materials and important announcements will be posted at <http://my.ece.ucsb.edu/bobsclass/>

Homework: There will be weekly homework assignments. *No late homeworks will be accepted. This will be rigidly enforced.*

Laboratory: Weekly lab experiment conducted in groups of two students. No groups of three or more will be allowed. As in 2A, each student will prepare a Lab Report following successful completion of the experiment. The grade will reflect clarity and organization as well as circuit performance and conduct during the lab session.

Exams: There will be a short “progress” exam and then a comprehensive final.

Grading: The lab is a very important part of the ECE 2 and this will be reflected in the grading as follows (please note that this breakdown is **subject to change**):

Homework:	20%
Progress Exam:	25%
Laboratory:	25%
Final Exam:	30%