EECS170LA Electronics I Laboratory: Section B

Fall 2006

Goal and Description:	Laboratory accompanying EECS170A for students to improve experimental skills and enhance the understanding of lecture materials by conducting hand-on experiemnts. The experiments focus on semiconductor material properties, semiconductor device physics and operation principles, transistor switches, and transistor amplifiers.
Prerequisites:	Physics 7D, EECS70A, and EECS70B
Co-requisites:	Physics 7E, EECS 170A
No. of Units:	1 unit
No. of Design units:	1 unit
Experiments:	1. Introduction and equipment operations 2. Soldering technology and RC filters 3. Characterization of semiconductors 4. Characterization of P-N junction and Schottky diodes 5. Transient responses of diodes 6. Characterization of bipolar junction transistors and MOSFETs 7. Bipolar junction and MOS transistors as switches 8. Bipolar junction transistor amplifier
Objectives & Outcome:	This course partially satisfies Obj-EE 1 and EE3. It partially contributes to a successful assessment of outcomes Out-EE(c), Out-EE(d), and Out-EE(f). It partially satisfies the program criterion Crit-EE 2.
Outcomes:	Students will learn how to use modern electronic equipment, how to characterize diodes and transistors, and how to build basic circuits and measure them. At the end of course students will be able to design, build, and measure single-stage transistor amplifiers.
Laboratory Location:	MSTB 224
Instructor:	Peter J. Burke, Professor Electrical and Computer Engineering 2232 Engineering Gateway 949-824-7462 pburke@uci.edu
Teaching Assistants:	Samyar Dibaj (sdibaj@uci.edu) Sajeevan Mahadeva (smahadev@uci.edu)
Grading Components:	Lab. reports 50% Quiz (Dec. 1, Monday) 50%
Laboratory Manual:	Available ~ $6 per copy at the Engineering Copy Center

You must be present in the entire lab period to get credit.

The lab course starts on Monday September 25, 2006.