

EECS170A Fall 2006 Section B (Burke)

Distribution of topics and HW due dates might change.

Note: Discussion topics will be grouped as follows: T/W/F will cover the lecture from the same week.

Week	Tuesday	Thursday	Discussion to cover (M/W/F)	Lab to cover (M/T/W)	HW to cover
1	Introduction pp. 3-6	Resistance pp. 75-89	I for 100 e/s A/cm^2	Equipment Input/output impedance	
2	Resistance (continued) Energy bands pp. 23-34	Energy bands (continued) Doping pp. 35-40,57-61	ρ from R vice versa log plots (HW #2.1 '03 $R_{AB} = 10k\Omega, 10\Omega$)	Soldering, RC circuits	HW#1: current sizes (Due Friday)
3	Density of States Fermi Level pp. 41-57,61-67 diode I-V intro	Density of States Fermi Level (continued)	μ from N_D, N_A ρ from N_D, N_A R from N_D, N_A	Resistivity measurement	
4	Band bending, pp. 89-93	Diffusion, equilibrium, Einstein relationship pp. 94-104	E_F from N_D ('03 midterm #1)	Diode I-V	HW#2: ρ from R R from ρ n, p from N_A, N_D (Due Friday)
5	Diffusion, equilibrium, Einstein relationship (continued)	BJT intro. pp. 371-372 p-n intro. pp. 195-208	Band bending examples p.144	Diode transient response	
6	p-n under bias pp. 215-221	p-n I-V pp. 235-240	p-n Electrostatics pp. 209-218	Transistor	HW#3 Band bending E_F from N_D (Due Friday)
7	MIDTERM	Ebers-Moll and diode circuits pp. 371-379	p-n pp.209-214 Ex. calcs. of x_p, x_n, V_{bi} (F Holiday)	No lab this week	
8	Transistors circuits, biasing	Transistor amplifiers	Example circuit biasing	Transistor switches	
9	MOSFET pp. 563-571	HOLIDAY (Thanksgiving)	nnp vs pnp (no Friday discussion)	Amplifiers	
10	LAB QUIZ	MOSFET pp. 611-617	CMOS	Amplifiers	HW#4: Circuits (diode, BJT) (Due Friday)
Finals	COURSE FINAL EXAM				