ECE 113A Fall 2003 Section A (Burke)
Distribution of topics and HW due dates might change.

Week	**Monday**	**Wednesday**	**Friday**	**Discussion to cover (Tu/W/F)**	**Lab to cover**	**HW to cover**
0	no class	no class	Introduction			
1	Crystal structure pp. 3-11	Resistance pp. 75-89	Resistance	BCC # atoms/cm^3 I for 100 e/s A/cm^2	Equipment Input/output impedance	
2	Energy bands pp. 23-34	Energy bands HW#1 due	Doping pp. 35-40,57-61	ρ from R;log plots (HW #2.4 last yr. R_{AB} =10kΩ,10Ω)	Soldering, RC circuits	atoms/cm^3 current sizes
3	Doping pp. 41-57,61-67	Doping HW#2 due	Band bending, diode I-V intro. pp. 89-93	R from N_D E_F from N_D (Last year midterm #3,4)	Resistivity measurement	ρ from R R from ρ n,p from N_A, N_D
4	MIDTERM ONE	Diffusion pp. 94-104	Diffusion eq. pp. 120-130	Band bending examples p.144	Diode I-V	
5	Diffusion eq. solutions	p-n intro. pp. 195-208 HW#3 due	p-n junctions pp.209-214	3.17,3.19,3.20, 3.21,3.22,3.24 (diff. eq. solns)	Diode transient response	Band bending E_F from N_D
6	p-n, BJT intro pp. 215-221, 371-372	p-n I-V pp. 235-240 HW #4 due	p-n I-V pp. 241-259	Ex. calcs. of x_p,x_n,V_{bi}	Transistor	Drift/Diff. examples x_p,x_n,V_{bi}
7	MIDTERM TWO	Transistors pp. 371-379	Transistor circuits	Ex. calcs. of n(x),p(x) under bias; 6.11	Transistor switches	
8	Transistor amplifiers	β calculation pp. 380-404 HW#5 due	β calculation	Circuit calcs. pnp/npn	Amplifiers	x_p,x_n,V_{bi} as 5.4, 6.11 p(x), n(x) under bias
9	MOSFET	MOS pp. 611-617 HW#6 due	HOLIDAY (Thanksgiving)	Ex. β calculation		Circuits (diode, BJT)
10	LAB QUIZ	MOSFET pp. 563-571	MOSFET	MOS		
Finals	COURSE FINAL EXAM					