EECS170A Fall 2004 Section B (Burke)
Distribution of topics and HW due dates might change.

| **Week** | **Tuesday** | **Thursday** | **Discussion to cover (Tu/W/Th)** | **Lab to cover (T/W/F)** | **HW to cover** |
|---|---|---|---|---|---|
| 1 | Crystal structure pp. 3-11 | Resistance pp. 75-89 | BCC # atoms/$cm^3$ I for 100 e/s $A/cm^2$ | Equipment Input/output impedance | |
| 2 | Energy bands pp. 23-34 | Doping pp. 35-40,57-61 | $\rho$ from R;log plots (HW #2.4 prev. yr. $R_{AB}$ =10k$\Omega$,10$\Omega$) | Soldering, RC circuits | atoms/$cm^3$ current sizes |
| 3 | Doping pp. 41-57,61-67 | Band bending, diode I-V intro. pp. 89-93 | R from $N_D$ $E_F$ from $N_D$ (Prev. yr. midterm #3,4) | Resistivity measurement | $\rho$ from R R from $\rho$ n,p from $N_A$, $N_D$ |
| 4 | MIDTERM ONE | Diffusion pp. 94-104, 120-130 | Band bending examples p.144 | Diode I-V | |
| 5 | p-n intro. pp. 195-208 | p-n junctions BJT intro. 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 I-V pp. 215-221, 235-240, 371-372 | 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 | Veteran's day HOLIDAY | Ex. calcs. of n(x),p(x) under bias; 6.11 | Transistor switches | |
| 8 | Transistors and circuits pp. 371-379 | Transistor amplifiers | Circuit calcs. pnp/npn | Amplifiers | $x_p$,$x_n$,$V_{bi}$ as 5.4, 6.11 p(x), n(x) under bias |
| 9 | MOSFET pp. 563-571, 611-617 | HOLIDAY (Thanksgiving) | Ex. $\beta$ calculation | | Circuits (diode, BJT) |
| 10 | LAB QUIZ | MOSFET | MOS | | |
| Finals | COURSE FINAL EXAM | | | | |
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