

Physics 1B(a) – Winter 2007 – Prof. David Kleinfeld

Week	Day	Date	Lecture Topic	Nominal Demonstration	Text Chapter	Homework (Problems from Text)
1	M	8 Jan	Charges; Coulomb's Law	Van de Graff	15	Ch 15 C: 3,4,8,10,15,16 P: 3,9,11,16,17,15,30
	W	10	Electric Fields; Dipoles;	Electrostatic Lines of Force	15	
	F	12	Gauss' Law		15	
2	M	15	UC Holiday			Ch 15 C: 22 P: 40,41,44,59 Ch 16 C: 2,5 P: 3,4,9
	W	17	Quiz on Electrostatics (Chapter 15)			
	F	19	Electric Potential		16	
3	M	22	Equipotentials	Spark Gap	16	Ch 16 C: 9.11.16,18 P: 16,19,26,39,40,42,57,63
	W	24	Electrostatic Energy; Conductors	Faraday Cage	16	
	F	26	Capacitance	Home brew capacitor	16	
4	M	29	Quiz on Electric Potentials (Chapter 16)			Ch 16 P: 44 Ch 17 C:2, 3, 8,13 P: 2,4,12,34,41,61,62
	W	31	Energy storage	Charging a 4F Capacitor	17	
	F	2 Feb	Electric Current; Ohm's Law	Series and Parallel Circuits	17	
5	M	5	Kirchoff's Loop Law	Circuit	18 Notes	Ch 18 C: 5,7,9,19,21 P:7,9,14,15,18,25,34,36,41,60
	W	7	Batteries	Cu, Zn & Lemons	18	
	F	9	Kirchoff's Node Law	Circuit	18	
6	M	12	Quiz on Circuits (Chapters 17 and 18)			Ch 19 C: 3,4,5 P:4,10,15,19,21
	W	14	Resistor/Capacitor Ckts. (<i>Ben Migliori, MS, guest lect</i>)	Oscilloscope; Voltage Decay	18	
	F	21	Forces on Currents	Wire in B-field	19	
7	M	19	UC Holiday			Ch 19 C: 16,22 P: 22,24,29,30,37,38,44,49,58
	W	21	Torque; Electric Motors	Parallel wires; motor	19	
	F	23	Ampere's Law; Solenoids	Home brew solenoid	19	
8	M	26	Quiz on Magnetism (Chapter 19)			Handout (4 problems) Ch 20 C:1,2,7 P:6,7,8,10
	W	28	Neurons and Neuronal Electrical Activity		18	
	F	2 Mar	Magnetic Flux	Loop Antenna	20	
9	M	5	Lenz's Law (<i>Jon Driscoll, MS, guest lect</i>)	Magnet in Tube; Swinging Plates	20	Ch 20 C:9,10,14,19 P:16,19,25,26,28,30,34,46,48
	W	7	Inductors	AC Induction	20	
	F	9	Resistor / Inductor Circuits	Oscilloscope Current Decay	20	
10	M	12	Quiz on Magnetic Induction (Chapter 20)			Ch 21 C:14,17,18 P:10,16,33,36,44,51,52,62,63
	W	14	Capacitor / Inductor Resonant Circuits	Oscilloscope Driven Mass / Spring Oscillator	21 (pdf) Notes	
	F	16	Electromagnetic Waves		21 (pdf)	
11	F	23	Final Examination (11:30 AM to 2:30 PM in WLH 2001)			