DEPARTMENT OF PHYSICS

Winter 2006 **Physics 1B (a and b)** **January 9, 2006**

Electricity, Magnetism and Thermodynamics

Web page: http://physics.ucsd.edu/students/courses/winter2006/physics1b/

INSTRUCTOR: Professor Herbert Levine (hlevine@ucsd.edu)
Office: 7230 Urey Hall
Office Hours: M 12-1 p.m. and W 2-3 p.m.
Phone: 534-4844

COURSE COORDINATOR: Patti Hey, 118 Urey Hall Addition, 822-1468, plhey@physics.ucsd.edu

1B TEACHING ASSISTANTS: TBA

CLASS SCHEDULE:

Lectures:	MWF(a)	8:00 – 8:50 AM	WLH 2001
	MWF(b)	9:00 – 9:50 AM	WLH 2001
Quizzes:	F (a)	8:00 – 8:50 AM	WLH 2001
	F (b)	9:00 – 9:50 AM	WLH 2001
Problem Session:	W(a)	6:00 – 7:20 PM	Center 212
	W(b)	7:30 – 8:50 PM	HSS 1330

Labs: Once a week for 10 weeks starting the week of January 9. For questions re: the labs, please contact the lab instructor. See attached lab handout for information.

Final Exam: (a) Monday, MARCH 20, 8:00-11:00 am, location to be announced.

(b) Wednesday, MARCH 22, 8:00-11:00 am, location to be announced

TEXT: Serway/Faughn, College Physics, 7th Edition, Thomson/Brooks/Cole

(This is a special custom-bind paperback bundle printed exclusively for UCSD)

PREREQUISITES: Physics 1A, 1AL and prior or concurrent enrollment in Math 10C-D or 20C. **Concurrent enrollment in Physics 1BL.**

COURSE FORMAT: Physics 1A-B-C is a lecture course covering mechanics, electricity and magnetism, waves and modern physics. This sequence is not suitable for students majoring in Physics, MAE, ECE or CSE. Other majors should check with their departments for the appropriate sequence. Physics 1B deals with Electricity and Magnetism. Concurrent enrolment in the 1B lab is required. Lab information can he found at http://www-physics.ucsd.edu/students/courses/winter2004/, A course schedule is attached

HELP IS AVAILABLE: A problem session will be held on Wednesday evenings before quizzes. At these sessions I will work problems and go over the weekly lectures. Attendance is voluntary, but students are encouraged to use these meetings to help master course material and prepare for quizzes. Individual assistance is available during office hours.

HOMEWORK ASSIGNMENTS: Problem sets are assigned as selections from each text chapter. Solutions will be available on the course web site. The problems will be worked in detail during the Thursday problem session. The homework will not be graded, but problems in the quiz may resemble homework assigned for the week.

QUIZZES: Quizzes will be given on several Fridays, beginning the second week. The overall quiz grade will be computed from the best 3 quizzes out of 4 total quizzes. **There will be no make-up quiz; this is the reason that I**

allow students to drop 1 quiz. **You must purchase your own scantron forms for quizzes (No. X101864-PAR). They are available at the Bookstore and the general store co-op for ~ $0.15 each. You will need a No. 2 pencil to fill in the scantron.** At the first quiz, you will be assigned a 3-digit number as your code number, which you will insert along with the course number on the scantron instead of your name. Recorded grades will be posted by the code number on the course website. Check to be sure your grade has been recorded correctly.

FINAL EXAMINATION: The final examination will cover all of the material of the course. **Please check your final exam schedule and inform instructor of any conflicts within the first two weeks of quarter.**

GRADING POLICY	Quizzes	60% (best 3 of 4)
	Final Exam	40%

ADD/DROP
Use WebReg to add/change/drop, drop from waitlists. See Sharmila Poddar (534-3290) in the Physics Department, Student Affairs Office, Urey Hall Addition, Room 115, if you have problems with WebReg. If you need advice, see the TA or the instructor, **but they do not sign any cards.**

ADD/DROP DEADLINES

Add	Friday, January 20, 2006
Drop without 'W' on transcript	Friday, February 3, 2006
Drop with 'W' on transcript	Friday, March 10, 2006

No drops allowed after Friday, March 10 2006.

ACADEMIC DISHONESTY: Please read "UC Policy on Integrity of Scholarship" in the UCSD General Catalog.

APPROXIMATE LECTURE SCHEDULE

Week	Date	Topic	Chap.
1	1/9	Charges	15
	1/11	Coulomb's law	
	1/13	electric fields	
2	**1/16**	**Holiday (Martin Luther King Day)**	
	1/18	conductors, Gauss's law	
	1/18	Review sessions	
	1/20	**quiz on Chap. 15**	
3	1/23	Electric potential	16
	1/25	equipotentials	
	1/27	capacitance, energy storage	
4	1/30	capacitor combinations	
	2/1	electric current	17
	2/1	Review sessions	
	2/3	**quiz on Chap 16.**	
5	2/6	Ohm's law	
	2/8	Superconductivity, energy	
	2/10	electric power, batteries	
6	2/13	resistors, series and parallel	18
	2/15	Kirchoff's laws	
	2/15	Review sessions	
	2/17	**quiz on Chaps 17 & 18**	
7	**2/20**	**Holiday (Presidents Day)**	
	2/22	Magnets	19
	2/24	Forces on currents	
8	2/27	torque, electric motor	
	3/1	Ampere's law, solenoids	
	3/1	Review sessions	
	3/3	**quiz on Chap 19**	
9	3/6	magnetic flux, induced emf	20
	3/8	Lenz's law, inductors	
	3/10	RC, LC and RLC circuits	
10	3/13	EM waves	21
	3/15	Biomedical applications	
	3/17	Review	

FINAL EXAM: **(a) Monday, MARCH 20, 8:00-11:00 am, location to be announced.**

(b) Wednesday, MARCH 22, 8:00-11:00 am, location to be announced

HOMEWORK QUESTIONS WILL BE ASSIGNED WEEKLY.