DEPARTMENT OF PHYSICS

Physics 1B – Electricity, Magnetism and Thermodynamics

Summer Session II
06 August – 09 September 2001

Course Description

Physics 1B is the second quarter of a three-quarter calculus-based lecture and laboratory introductory physics course geared toward life-science majors. It covers electric fields, magnetic fields, DC and AC circuitry, and thermal physics. Students are strongly encouraged to check with their individual departments to determine if this course is satisfactory for their requirements.

Prerequisites

Physics 1A and concurrent enrollment in Mathematics 10C or Mathematics 20B. Students must have a good background in algebra, trigonometry, vectors and calculus in order to perform well on homework, quizzes and the final exam.

Instructional Team

Name		Office Loc.	Office Hours	Office Tel.	Email Address
Course Instructor	Tom Fleming	WLH 2135	Tue/Thu 1200-1300	822-4999	mtfleming@physics.ucsd.edu
Lecture Coordinator	Andrew Heninger	WLH 2135	Mon/Wed 1130-1230	822-4999	aheninger@ucsd.edu
Lab TA	Andrew Heninger	WLH 2135	Mon/Wed 1130-1230	822-4999	aheninger@ucsd.edu
Lab TA	Tina Huang				tinahuangting@hotmail.com
Course Coordinator	Patrice Hey	UHA 118	Mon-Fri 0900-1500	822-1468	plhey@physics.ucsd.edu

Text

Hecht, Eugene. *Physics: Calculus*, 2ed. California: Brooks/Cole, 1999.

Grading

There are a total of 750 points possible in the course, distributed as follows:

- (Best 3 of 4 Quizzes) x (125pts/Quiz) = 375 pts = 50% of total course grade
  There will be four Friday quizzes, each worth 125 pts. Your lowest quiz score will be automatically dropped. There will be no make-up quizzes.

  Most problems on a given quiz will concentrate on material from the immediately preceding Mon-Thu lectures and homework, but some may also be drawn from previous weeks. There will be at least one question on each quiz dealing with material covered in that week's laboratories. You may use a single 3" x 5" index card as a quick-reference during your in-class quizzes.

- (1 Final) x (75 pts/Final) x (3) = 225 pts = 30 % of total course grade
  The Final Exam will be comprehensive. You may use a single 3" x 5" index card as a quick-reference during the Final Exam.

- (Best 6 of 7 Lab scores) x (5pts/Lab) x (5) = 150 pts = 20 % of total course grade
  Labs will meet twice-per-week on Tuesdays and Thursdays, beginning Tuesday, August 14 and ending Tuesday, September 04. Seven lab experiments will be performed. Due to the compressed Summer-Session schedule, it will not be possible to do a make-up lab. Your lab grade will, however, be based

on the best 6 of 7 lab scores. If you miss a lab, that will be your dropped score. Detailed information about laboratory policies and grading are contained in the separate Lab Syllabus.

Homework problems representing key concepts will be assigned and posted to the course website throughout the week. They will be neither collected nor graded. You should, however, make every attempt at solving all homework problems since the quiz and final problems will rely on similar concepts and strategies.

Quiz grades and Lab grades will be posted to the course website no later than Monday of the following week. You should check your posted grades on Mondays to make sure that they are correct. If you find any errors, you need to contact the Lecture Coordinator, Andrew Heninger, *in-person* during his office hours or after the Thursday problem session of the same week. *Thursdays are the deadline for appealing or correcting any quiz or lab grades -- all recorded grades will become permanent each Thursday night.*

Getting Extra Help

- Office Hours

  Office hours have been scheduled daily, Monday through Thursday. We are happy to provide extra help when needed, and you should make use of as much of this time as you desire.

- Problem Sessions

  Attending the weekly problem sessions is strongly encouraged. In addition to standard problem-solving strategies, the problem sessions will often include additional instruction in special topics (such as dimensional analysis, vectors, calculus, and the art of translating physical problems into the language of mathematics). These sessions are meant to be dynamic and adaptive to the needs of the class as it progresses.

- Study Groups

  Small study groups are also an extremely effective way of learning and preparing for examinations. You should try to team-up with other classmates right after the first lecture.

- Website Discussion Board

  We've also set-up a student discussion board on the course website. You'll be able to read, post, and reply to each-other's questions or comments about the course, or whatever else interests you. It's your board, so have fun with it (but please -- *keep it clean, safe, and fair!*)

Course Website

The course website is located at

http://casswww.ucsd.edu/physics/phys1b

The website is where you'll find just about everything relevant to your course. It is actively maintained with lecture notes, homework, grades, histograms, special notices of importance on a daily basis, a discussion-board and more. Please let us know if there's anything else you'd like to see there.

Add/Drop Deadlines

Deadline to Add…….Friday, August 10
Deadline to Drop without "W" on transcript…….Friday, August 24
Deadline to Drop with "W" on transcript……..Friday, August 31
No drops allowed after Friday, August 31

Academic Dishonesty

Any form of cheating or plagiarism will initiate full-enforcement of the *UCSD Policy on Integrity of Scholarship*, in the 2000-2001 UCSD General Catalog. You are here because you are one of the Nation's top students, and you are well on your way to a top career. You don't need to cheat – it's beneath you – and it's certainly the quickest way to destroy your otherwise bright future.

UCSD PHYSICS 1B - CLASS SCHEDULE

2001 Summer Session II -- Instructor: T. Fleming

August				
Mon	**Tue**	**Wed**	**Thu**	**Fri**
6 LEC 1 – **Introduction to Physics 1B** **Thermal Properties of Matter**	**7** LEC 2 – **Thermal Properties of Matter** **NO LABS**	**8** LEC 3 – **Heat and Thermal Energy**	**9** LEC 4 – **Heat and Thermal Energy** **NO LABS** PROB SESSION 1	**10** **QUIZ 1**
13 LEC 5 – **Thermodynamics** Quiz 1 Grades Posted	**14** LEC 6 – **Thermodynamics** LAB 1 – **Thermal Prop/Heat Transfer**	**15** LEC 7 -- **Electrostatics**	**16** LEC 8 – **Electrostatics** LAB 2 – **Heat Engines** PROB SESSION 2 Quiz 1 Grade Appeals Deadline	**17** **QUIZ 2**
20 LEC 9 – **Potential and Capacitance** Quiz 2 Grades Posted	**21** LEC 10 – **Potential and Capacitance** LAB 3 -- **Electrostatics**	**22** LEC 11 – **DC Current**	**23** LEC 12 – **DC Current** LAB 4 – **Electric Fields / Potentials** PROB SESSION 3 Quiz 2 Grade Appeals Deadline	**24** **QUIZ 3**
27 LEC 13 – **DC Circuits** Quiz 3 Grades Posted	**28** LEC 14 – **DC Circuits** LAB 5 – **Batteries and Lightbulbs**	**29** LEC 15 -- **Magnetism**	**30** LEC 16 – **Magnetism** LAB 6 – **Flashers: RC Time Constant** PROB SESSION 4 Quiz 3 Grade Appeals Deadline	**31** **QUIZ 4**

September				
Mon	**Tue**	**Wed**	**Thu**	**Fri**
3 LABOR DAY HOLIDAY **NO CLASS**	**4** LEC 17 – **Electromagnetic Induction** LAB 7 -- **Magnetism** Quiz 4 Grades Posted	**5** LEC 18 – **Electromagnetic Induction**	**6** LEC 19 – **REVIEW** **NO LABS** PROB SESSION 5 Quiz 4 Grade Appeals Deadline	**7** **FINAL EXAM:** WLH 2207 1100-1220 Final Grades Posted Over Weekend
10 Final Exam Grade Appeals WLH 2135 1200-1400 Final Grades Submitted to Administration	**MEETING LOCATIONS/DATES/TIMES**			
	LECTURES……WLH 2207 MTuWTh 0930-1050 **QUIZZES**……WLH 2207 F 0930-1050 **PROB SESSIONS**……...WLH 2207 Th 1700-1900 **FINAL EXAM**……WLH 2207 Friday, September 07 1100-1220		**LAB SECTION A01**: WLH 2214 TuTh 1100-1230 **LAB SECTION A02**: WLH 2214 TuTh 1245-1415 **LAB SECTION A03**: WLH 2214 TuTh 1430-1600	