Saddleback College

Syllabus

Spring 2007

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Course Description:
This course is intended for students in the sciences and related subjects who are required to complete a physics course based on pre-calculus mathematics. The course covers topics in electricity and magnetism, optics, atomic physics, nuclear physics, special relativity and elementary particle physics.

Prerequisites
Physics 2A is a prerequisite to this course. YOU MUST HAVE COMPLETED IT PRIOR TO THIS COURSE WITH A GRADE OF C (OR CR) OR BETTER. If you have not satisfied the prerequisite requirement you may be denied credit for the course even if you pass. Additionally, UC and CSU may not accept transfer credit if the prerequisite is not satisfied.

If you took the prerequisite classes a long time ago and feel that you are a bit “rusty”, I suggest that you find some time early in the semester to review and sharpen your skills.

Required Materials
Scientific calculator with trigonometric functions. (Know how to use it.)
Lab notebook (See Lab section below for details).

Course Grade

- Laboratories --------------------------------------------------------------- 20%
- Exams (4)--------------------------------------------------------------- 40%
- Homework Quizzes (about 15) & Class Participation --------------- 20%
- Final Exam --------------------------------------------------------------- 20%

Your grade will be based entirely on your performance in the areas indicated above. All of the exams will count. (I.e., I will not drop the lowest grade.) I do not grade on a “curve”. Note that the final exam will be a comprehensive exam covering the entire course and it counts 20% of your grade. The time to start preparing for it is now! Do not expect any “extra credit” opportunities at the end of the semester.

This is a difficult course and we are required to cover a lot of material. While I applaud your involvement in extracurricular activities such as campus organizations, such participation is not an excuse for poor performance. You are responsible for adjusting your schedule of commitments so that you do not overextend yourself at the expense of your performance in this course. Additionally, while I understand that for some students it is necessary to work while
attending college, I cannot make exceptions to the course requirements to accommodate your work schedule.

As a rule-of-thumb a college course requires three hours of out-of-class study every week for each unit of credit. That means that a 5-unit course typically requires 15 hours of study in addition to the 4 hours of class and 3 hours of lab. Many students find physics 2B harder than most courses so I strongly recommend allowing yourself even more time than this. Don’t fall behind. It is almost impossible to catch up as the course keeps moving along!

Saddleback College has a responsibility to maintain certain standards in order for its courses to be accepted by the state universities. These standards are constantly under review by the universities. The only reason that you have the opportunity to take courses here for transfer to the university-system schools is because Saddleback has maintained these standards in the past. We here at Saddleback are committed to continuing to maintain these standards so that future generations of students can have the same opportunity currently afforded to you.

**Homework Policy**

Physics is learned by doing the homework. I cannot overemphasize its importance. Every semester there are students who don’t do the homework and almost without exception these students drop or fail the course.

I will not collect homework. Instead we will have a short quiz on the day the homework is “due”. The problems will be very much like the homework problems and will be open book. If you have done the homework it will be a great advantage!

Try to do the homework before the second class on the chapter. This will enable you to pay special attention in class to the points you don’t understand. If you still have trouble with the homework come see me after class.

**Class Participation**

You are given a detailed schedule of material to be covered in this course. We will follow the schedule closely. You are expected to read the text material prior to the class in which it is to be covered and to be able to answer questions (either orally or in the form of a pop quiz).

Note that I have designated two (2) days for (almost) every chapter. On the second day you should be able to discuss any of the “Concept Questions” at the end of the chapter.

**Cheating Policy**

Students caught cheating on an exam or lab assignment will be subject to the college policy. The student should read the Student Handbook and/or the schedule of classes for a description of this policy.

**Attendance Policy:**

Class attendance is vital for several reasons:

- We will occasionally cover material in class that is not in the text. This material will be covered in the exams and quizzes.
We will occasionally have a “pop quiz” which will count toward your final grade and which cannot be made up.

Class attendance will be recorded as required by college regulations and state law. Any student missing 8 or more hours of instruction or laboratory is subject to being dropped from the class. If you miss more than 8 consecutive hours without notifying me in advance you will be dropped from the class.

If you come in late, be sure to let me know so I can count you present.

Do not plan outside activities such as doctor visits (except emergencies), trips to universities, studying for exams, etc during class or lab time.

Class begins at 10:30. Late arrivals disrupt the entire class. Be on time. If late arrival of students becomes a problem, I will lock the doors at 10:31 and admit late comers as a group when there is a convenient break in the lecture or after the quiz if we are having one. (If you miss a quiz you cannot make it up.)

See section on Lab Policy below for additional attendance policy regarding labs.

Make-up Exams

Makeup exams are given only for extreme circumstances. Proof of excused absence will be required, e.g., doctors note, police report of accident. The makeup exams are different (and perhaps harder) from the regular exam. No makeup can be given for the final exam (no exceptions). Pop quizzes and homework quizzes can not be made up.

Makeup exams will be taken in the Math/Science division office at the student’s convenience. The makeup exam will be available as soon as possible after the student has demonstrated proof of excusable absence (usually within 1 week). The exam must be completed within 1 week after it is made available. Exams not made up on time will receive a grade of zero.

Students with Disabilities

If you have specific disabilities and require accommodations, you must let me know during the first week of the semester so that your needs may be appropriately met. You will need to provide documentation of your disability to the Special Services Office in the Student Services Center, Room 113.
Lab Policy

Attendance in Laboratory is mandatory. If you are not present for a lab you will receive a grade of 0 for that lab. There can be no makeup for missed labs. There will be 10 labs during the semester. (Other lab time slots will be used for exams, etc.) If you miss more than 2 labs, in addition to receiving 0’s in the missed labs your lab grade will be reduced by 5 points (out of 20) for each lab missed in excess of 2. In other words: If you miss 3 labs the highest lab grade you could possibly make is $2 \times 8 - 5 = 11$ (out of a possible 20). This drops your total grade in the course by almost a full letter grade. Be there! In addition, the lab is scheduled to run from 12:30 until 3:30. While you may finish some labs before 3:30 do not count on it and be prepared to stay the full time. If you leave the lab before the experiment is completed to my satisfaction your grade for that lab will be reduced accordingly. (In extreme cases you may be counted absent for the entire lab!)

Experiments are to be performed by groups of 2 whenever possible. One group of 3 will be permitted only when there is an odd number of students present. Groups of 4 or more are never permitted. (Occasionally lack of sufficient lab equipment may necessitate larger groups but I will do everything possible to avoid this problem.)

Be on time for the lab! We will begin every lab with a brief lecture on what is expected in that lab and (usually) on how to do the experiment. I will not repeat the lecture for late comers. If necessary we will reassign lab partners based on who is present. If you are late, it holds up the entire class and may result in your having to work with a different lab partner. If you are more than 20 minutes late you will not be permitted to attend the lab and you will be counted absent.

Lab Notebook

Your lab notebook must be bound (not spiral or loose-leaf) quadrille-ruled, and about 8 ½ x 11 inches. It must be bound on the left edge, not the top. You may use your 2A lab notebook if it meets the above requirements and has at least 60 blank pages left.

Bring your lab notebook to every lab. No excuses! Everything you write down in the lab must be written directly into the lab notebook. Nothing is to be written on scratch paper for future inclusion into the notebook – ever!

Your lab notebook must conform to the written instructions that I will give you before the first lab.

If I did not check off your Lab Notebook before you left the lab (for any reason), bring it to class on Wednesday with the entry for the Monday lab completed. I will (depending on time available) either check it off after class or collect the notebook and return it to you (during class the following Monday) in plenty of time for you to use it in the lab that afternoon.