

SIMS Physics 1 Syllabus

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Course Description

Welcome to SIMS Physics 1. This is a two-week course that covers parts of the material in a first-year college physics course for engineers. No prior knowledge of Physics is required, but you must be comfortable with algebra and trigonometry. We'll also cover a few topics on current research in physics and engineering. The textbook (which I will lend to your for the duration of the program) is Physics, Classic Edition by Halliday and Resnick.

Homework Assignments

To pass college physics, you must do each and every homework assignment. This is so important that I will fail you if you don't attempt each homework assignment over the two week course. Unlike other college courses (such as Biology or Math) Physics doesn't require a good deal of memorization. Instead, it requires problem solving skills, and the only way to develop these is to do problems. The good thing about college physics is that you are encouraged to work on the problems in groups with other students (Note: work *with*, not copy *from* :o). The SIMS program has time available for you to work together in the evenings on your problems, and we'll set aside some time for working together in class.

Grading: Homework will be assigned after every lecture, and due the following lecture. I will "spot-grade" your homework: I will grade 1 or 2 problems from each assignment, and give you up to 8 points for the correctness of your answer(s) to those problems. You will get 5 points for completing each assignment, and 2 points for neatness, for a total of 15 points. Also, I will give a final exam on the last day of class, which will count for 50% of your grade. Obviously, your grade in this class is just my way of helping you learn and helping you figure out what college will be like – it won't go on your academic record.

Class schedule

We have class from 10-10:50 am for 9 sessions over the course of two weeks (including a Saturday?!).

Lecture	Date	Topic	Chapter
1	Monday 8/14	Dimensional Analysis/units	1
2	Tuesday 8/15	Vectors 1	2
3	Thursday 8/17	Vectors and Newton's 1 st Law	2, 5
4	Friday 8/18	Newton's Laws	5
5	Saturday 8/19	Group problem solving	5
6	Monday 8/21	Applications of Newton's Laws	6
7	Tuesday 8/22	Friction	6
8	Wednesday 8/23	Circular Motion	7
9	Thursday 8/24	Final	