

Physics 405
Spring Quarter 2011
Course Syllabus

Instructor: Robert Echols, rechols@calpoly.edu, 756-2656, www.calpoly.edu/~rechols

Office Hours: M, W, and F 9:40-10:30 a.m. and T 12-2:00 p.m. in my office, 25-212

Schedule: M, T, W, and F 3:10-4:00 p.m. in 5(Architecture and Environmental Design)-104

Textbook: R. L. Liboff, Introductory Quantum Mechanics, 4th Edition

Additional References: H. C. Ohanian, Principles of Quantum Mechanics.
D. Park, Introduction To The Quantum Theory.
D. S. Saxon, Elementary Quantum Mechanics.
P. A. M. Dirac, The Principles of Quantum Mechanics.

Tentative Course Outline:

In physics 405 we will be covering the material in chapters 3, 4, 5, 6, and parts of 7, 9, 10 (including the hydrogen atom). Please read the material in chapters 1 and 2 containing topics you have encountered in previous physics courses (primarily mechanics, modern physics and Q-lab). This material forms the foundation for our course and we will be returning to it throughout the quarter.

Homework:

As you know working physics problems is critical to understanding the material. I encourage you to discuss solutions of problems with each other and myself but I expect that the homework you hand in to be individually prepared. In fact, I strongly recommend reworking a problem by yourself (if you did obtain assistance from me or another student) without looking at any previous work you have completed (or the text) to make sure every aspect of the problem is understood.

Exams and Quizzes:

We will be having two exams and a comprehensive final exam.

Grading:

Your final grade will be based on your overall performance in the class with the following approximate percentages: exams (20/25% each), homework (20%) and the final exam (40-30%).

A thought to keep in mind when you get confused during this course:

“Because atomic behavior is so unlike ordinary experience, it is very difficult to get used to, and it appears peculiar and mysterious to everyone – both to the novice and to the experienced physicist. Even the experts do not understand it the way they would like to, and it is perfectly reasonable that they should not, because all of direct, human experience and of human intuition applies to large objects. We know how large objects will act, but things on a small scale just do not act that way. So we have to learn about them in a sort of abstract or imaginative fashion and not by connection with our direct experience.” - Richard Feynman