

Contact Information

Instructor: Jim Crumley
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Office Hour: 1 pm days 1 and 3 (or by appointment or just stop by)

Course Information

Lecture: 11:20 am–12:30 pm Days 135
Room: 167 Peter Engel Science Center
Textbook: *Introduction to Quantum Mechanics* by Griffiths (Second Edition)
Web Sites: <http://www.users.csbsju.edu/~jcrumley/346/>
<https://moodle.csbsju.edu/course/view.php?id=266>

Introduction

In this course, we continue our journey back through physics, re-covering material that was introduced in your first two years here. This semester we will go back over the quantum physics which was covered in your modern physics class. Now that you have a year and half more math and physics under your belt, we will use it to gleefully attack quantum physics.

In this course we will (following the cue of Griffiths) cover a broad range of tools, techniques, and applications of quantum mechanics. Time constraints prevent us from going into a great deal of depth in many of the areas that we will cover, but you should come out of this course with a much greater appreciation of the breadth of quantum physics than you had coming in.

Quizzes

Quizzes will be given in class frequently. Most will be very short problems which will just be graded on whether or not a serious attempt was made to complete the problem. Other quizzes will be like homework problems and will be graded normally.

Homework Problems

Homework will be assigned and graded for this course. I encourage you to work together on homework, though make sure you write up and understand your own solutions to the problems.

Tests

You can bring a single-sided (double-sided for the Final) cheat sheet to each test that has relevant formulas and constants on it. No worked out problems or examples allowed on the equations sheet. Tests will consist of several problems.

Grading

The grades in this class will be based on 6 scores: quiz, homework score, 3 test scores, and the final exam score. Quizzes will be worth 10 %, while the homework and tests will be worth 15 % each and the final will be worth 30 %.

Tentative Course Schedule

Test 1	Oct. 3	
Test 2	Nov. 2	
Test 3	Dec. 5	
Final Exam	Dec. 19	10:30 am – 12:30 pm

References

- *Quantum Physics* by Gasiorowicz – somewhat terse book that covers a little more material than Griffiths, but at about the same level.
- *Introductory Quantum Mechanics* by Liboff – very thorough, but not particularly easy book to read at about the same level as Griffiths.
- *The Feynman Lectures on Physics, Vol. III* – as usual a good resource for a different view.
- *Principles of Quantum Mechanics* by Shankar – written at a little higher level than Griffiths, but not out of reach for undergraduates.