Physics 246
Quantum Theory
Spring 2007

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B&L 451, x58528
Office hours: Tuesday 2:00–3:00 pm and by appointment

This second course in Quantum Mechanics focuses on the formalism of Quantum Theory. The text is *Introductory Quantum Mechanics* (4th edition) by Richard L. Liboff.

Course outline:

	Chapter
1. Introduction/Review	
2. Postulates of QM	3
3. Function Spaces and Hermitian Operators	4
4. Superposition, Compatible Observables	5
5. Time Development and Conservation Theorems	6
6. One-dimensional Problems	7
7. Angular Momentum	9
8. Three-dimensional Problems	10
9. Matrix Mechanics	11
10. Perturbation Theory	12
11. Scattering (time permitting)	13

Organizational details:

- Class Sessions

  Lectures: MW 3:25 – 4:40 pm, B&L 269

  Lecture notes will be available through the course web page (see below for url).

- Text and books on reserve

  The main text is *Introductory Quantum Mechanics* (4th edition) by Richard L. Liboff. Lectures will largely follow the text, with some deviations.

  The main text and the following books will be on reserve at the POA library:

  The Principles of Quantum Mechanics, by P.A.M. Dirac

  Quantum Mechanics, by C. Cohen-Tannoudji, B. Diu, and F. Laloë

  Quantum Mechanics, by Eugen Merzbacher

(over →)

- Requirements and Grading

  The final grade will be determined as follows:

  - **50% Homework.** There will be weekly homework assignments, which will be due **in class**, usually on Wednesday. You are encouraged to discuss the problems with your classmates, but each student must write the problems up separately.

    Homework turned in after class will be penalized 15%. *Homework will not be accepted later than the class meeting one week past the original due date.*

    Homework solutions will be available through the course website.
  - **20% Midterm Exam.** There will be one mid-term exam at a date to be announced, probably during late March.
  - **30% Final Exam.** The final exam will be held as scheduled by the Registrar:

    Monday, May 7, 8:30 am.

- Teaching Assistant

  Dan Miner (dminer@pas.rochester.edu) is the teaching assistants for this course. His office hours are

  M 5-6pm, POA library.

- Web Page

  The course homepage is

  `http://www.pas.rochester.edu/~orr/p246.html`

  It can also be reached through the Department of Physics and Astronomy homepage at:

  `http://www.pas.rochester.edu/`