Course Objective: To familiarize the student with the fundamental concepts and techniques of quantum mechanics.

Lecturer: Caroline G. Morgan, 272 Physics Research Building
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Office Hours: M 2:30-4:30 P.M., W 2:30-3:30 P.M.


Lecture Hours/Location: MWF 12:50-1:45 P.M., 185 Physics Research Building

Problem Section Time/Location: F 3:00-3:55 P.M., 185 Physics Research Building

Grading:
- Hour Exam 1 20%
- Hour Exam 2 20%
- Final Exam 40%
- Homework 20%

Exams: Two hour exams will be given during the lecture class, on Friday, October 17 and Wednesday, November 26. The final exam will be given from 10:40-1:10 P.M. on Wednesday, December 17. The second hour exam will focus on material covered since the first exam, which was not covered on the first exam. The final exam will cover all the course material; however, material covered at the end of the course, which was not included on the previous hour exams, will be somewhat more heavily emphasized on the final exam than material which has been covered by a previous exam. Absences during scheduled exam times are strongly discouraged - real emergencies will be dealt with on an individual basis.

Homework: During the weekly, one-hour problem session, solutions to the assigned homework problems will be presented by volunteers from the class, and common pitfalls and different methods of solution will be discussed. The homework grade will be based both on the written homework and on the presentation of solutions and additional contributions to the discussion in the problem session. Though students are encouraged to discuss with each other how to solve the assigned problems, there has to be individual effort – there should be no copying of solutions. Homework will generally be assigned during the Wednesday lecture class, and will be due at the lecture class one week later. Homework will be graded and returned to the students in time for the problem session on Friday. If a student must miss class on the day that the homework is due, credit will be given for homework which is put in my mailbox before the time that the homework is due, but no credit will be given for late homework.

Course Description: This course is the first semester of a two-semester course sequence on quantum mechanics, covering the Schrödinger equation and its meaning and solutions as applied to simple physical and chemical problems, perturbation theory, theory of atomic collisions, matrix mechanics, transformation theory, angular momentum and spin, and theory of measurement.