PHY 7410 QUANTUM MECHANICS II WINTER 2011

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: To be announced after the problem session is scheduled.

Textbook: Quantum Mechanics, by Eugen Merzbacher, 3rd edition (Wiley, 1998).

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

Problem Section Time/Location: To be announced.

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, February 18 and Friday, April 1. The final exam will be given from 10:40-1:10 P.M. on Monday, May 2. 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 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: A weekly, one-hour problem section will be scheduled at a mutually convenient time for discussion of the assigned homework problems. During the problem session, solutions to the assigned problems will be presented by volunteers from the class. 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. If a student must miss class on the day that the homework is due, credit will be given for homework which is postmarked, scanned and emailed to me, or put in my mailbox before the time that the homework is due (generally at the lecture class one week after it is assigned), but no credit will be given for late homework.

Course Description: This course is the second semester of a two-semester course sequence on quantum mechanics, covering the Schrodinger 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.