PHY 7410 – Quantum Mechanics II -- Winter 2012

Lecture: M W F 12:50 to 1:45 Room 185 Physics

Lecturer: Tom Cormier
Room 349 physics
Office Hours by appointment. Spur of the moment visits are also strongly encouraged.
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Text: Required text: Quantum Mechanics Volume I and II
Cohen-Tannoudji, Diu and Laloe, Wiley-VCH Publishing Co.

Course Material:

1. Review of Quantum Mechanics I
2. Angular Momentum (Chap. VI)
3. The two-body problem, the hydrogen atom (Chap. VII)
4. Electron spin (Chap. IX)
5. Addition of angular momentum (Chap. X)
6. Approximation methods and applications (Chap. XI, XII)
7. Time dependent perturbation theory (Chap. XIII)
8. Identical particles (Chap XIV)
9. Many particle systems – atoms, molecules, nuclei
10. Scattering theory (Chap. VIII)

Supplementary Material: Selected applications drawn from particle, nuclear, and atomic and molecular physics, entanglement and measurement theory, laser cooling and complex systems will be included throughout the course as time permits

Homework: Assigned weekly. Group effort is allowed. It is assumed that students will read the text material as some of the more elementary topics may not be explicitly covered in lecture.

Grades:

Homework	10%
Midterm	40%
Final	50%

Final Exam Scheduled as Posted