Syllabus

Course: Introduction to Quantum Mechanics/Atomic Physics (Phys 402/502), 2008Fall
Instructor: Ming Tian
Contact: Department of Physics & Astronomy, STI 363B
phone: (703)993-1285, email: mtian1@gmu.edu
Office hour: Monday and Wednesday 2:00-3:00pm, ST I 363B, or by appointment

Credits and prerequisite:
3 credits
Prerequisite: phys308

Lecture: MW: 4:30pm-5:45pm, STI 310
Reference books:
Mathematical Methods in the Physical Sciences, 2nd edition, Mary Boas,
CRC Standard Mathematical Tables and formulae.

Homework*: assigned every week and due in class on Monday of the following week unless specified otherwise.
Late homework policy: homework turned in the day after the due day will pay a penalty at 50% of the original grade. Homework late by more than one day will not be accepted. Late homework can be allowed at no cost only if you have a valid cause, such as illness or family emergency, AND if you contact the instructor in advance (an email will do indicating your reason and the date the homework will be in by)

Exams*: two in-class open book exams
Mid term: Mid October (to be announced), covers everything learnt before the exam.
Final: Dec.10, 4:30-7:15pm, covers the course material with emphasis on the content after the midterm.
* extra questions will be assigned to phys502 students.

Grade:
Homework: 50%
Midterm: 20%
Final: 30%

Website: logon http://courses.gmu.edu
Homework, reading assignment, and homework solutions will be posted here.

Course Content
1. The wave function and Schrödinger equation (Chapter 1)
2. One-dimensional time-independent Schrödinger equation (Chapter 2)
3. Formulism (Chapter 3)
4. Quantum mechanics in three dimensions-Hydrogen atom (Chapter 4)
5. Identical particle (Chapter 5)
6. Time-independent perturbation theory (Chapter 6)
7. Time-dependent perturbation theory ((Chapter 9)