

Physics 308 (Quantum Mechanics) Spring 2008

1. Lecture, Staff, Exam and Homework

- (a) Lecture
Mon. Wed. Fri. 9:35-10:30, Rm-P129 (Phys), beginning 1/28/08
- (b) Staff
Prof. Thomas Kuo, Physics C-137, 632-8125, Thomas.Kuo@sunysb.edu
TA, to be announced
- (c) Office Hours
Kuo: Th. 10-12 am (C-137).
You are welcome to visit me at other times too, just drop in.
TA: to be announced
- (d) Exams
Exam-1: March 5, Wed., Phys-P129 9:35-10:30
Exam-2: Apr. 16, Wed., Phys-P129 9:35-10:30
Final : May 16, Fri., 8:00-10:30 (room to be announced)
- (e) Homeworks
Weekly homework assignments will be announced in lecture.
- (f) Course grades
Exam-1 (20%), Exam-2 (20%), Final-exam (40%), Homework (20%)

2. Course Outline

- (a) Textbook
Introductory Quantum Mechanics (R.A. Liboff, Addison-Wesley)
- (b) Reference books (on reserve shelf of Phys-Math library)
S. Gasiorowitz, Quantum Physics (John Wiley)
R. Shanker, Principles of Quantum Mechanics (Plenum Press)
L.I. Schiff, Quantum Mechanics (McGraw-Hill)
- (c) Syllabus
The course is organized approximately into three equal parts:
 - I. Portions of Chaps 1 to 8 of Liboff (textbook). Main topics: historical review, basic postulates, mathematical preliminaries, operators, eigenvalues, eigenfunctions, time evolution operator, one dimensional problems, square wells, harmonic oscillators, Dirac creation and destruction operators, periodic potentials, energy bands,....
 - II. Portions of Chaps 9 to 11 of Liboff. Main topics: angular momentum, spherical harmonics, three dimensional problems, hydrogen atom,.. matrix formulation of quantum mechanics, spin,....
 - III. Portions of Chaps 13 to 15 of Liboff. Main topics: scattering problems, phase shifts, cross section, Born approximations, optical theorem,... perturbation theories, Brillouin-Wigner and Rayleigh-Schroedinger expansions, ...Dirac equation, Klein-Gordon equation...
 - IV. Few guest lectures will be arranged.

3. Disability Support Services (DSS) Statement:

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services (631) 632-6748 or <http://studentaffairs.stonybrook.edu/dss/>. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website:

<http://www.stonybrook.edu/ehs/fire/disabilities/asp>

4. Academic Integrity Statement:

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instance of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at

<http://www.stonybrook.edu/uaa/academicjudiciary/>

5. Critical Incident Management:

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students' ability to learn.