Syllabus for PHYS8150 (Spring-2007)
Advanced Quantum Mechanics

Course Objectives:
Relativistic extension of non-relativistic Quantum Mechanics. The emphasis is primarily on the quantum theory of radiation, the Dirac theory of leptons, and quantum electrodynamics.

Some Text Books:
Relativistic Quantum mechanics, Bjorken and Drell vol.I
Advanced Quantum Mechanics, Sakurai
An Introduction to Quantum Field Theory, Peskin and Schroeder

Topical Outline:
I. Classical Fields.
II. Quantum Theory of Radiation.
III. Relativistic Quantum Mechanics of Spin-1/2 Particles.
IV. Covariant Perturbation Theory.

Grading: (Mid-Term + Final)/2
The final letter grading scale: 90% – 100% : A; 85% – 90% : A−; 77% – 85% : B+;
70% – 77% : B; 65% – 70% : B−; 60% – 65% : C+; 55% – 60% : C; 50% – 55% : C−;
45% – 50% : D; < 45% : F.