Syllabus
Physics 31a, Quantum Theory I
Spring 2019

Instructor:
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Office Hours: By appointment. I am available to students whenever I am on campus.

Textbook: “Introduction to Quantum Mechanics” 3nd ed., David J. Griffiths

Prerequisites: PHYS 15a and b (or equivalent) and PHYS 20a, or consent of instructor.

Course Description: A serious introduction to quantum mechanics.

Topics to be covered include, but not limited to:
• the time dependent and independent Schrodinger Equation
• interpretation of the wave function
• the formalism of quantum mechanics
• barriers and wells in one dimension
• the harmonic oscillator
• the hydrogen atom
• intrinsic spin
• coupling of angular momenta
• identical particles, fermions, bosons
• atoms and solids

Exams: There will be two mid-term exams and a final. Grades will be based on the homework (20%), the mid-term exams (20% each) and the final (40%).

Homework: There will be weekly homework assignments due during the last class of the week following the week during which the assignment is made.

Success in this 4 credit hour course is based on the expectation that students will spend a minimum of 9 hours of study time per week in preparation for class (readings, papers, discussion sections, preparation for exams, etc.).