

Physics 3310**Quantum Physics I****Fall 2009****Class Hours:** MWF 11:00 - 11:50 AM**Classroom:** MH2002**Text:** Kenneth Krane, *Modern Physics*Course webpage: <http://astro1.panet.utoledo.edu/~jamar/phys3310/phys3310.htm>**Instructor:** Professor Jacques G. Amar**Office:** MH5006**Office hours:** MWF 2:00 – 3:00**Office phone:** 530-2259**E-mail:** jamar@physics.utoledo.edu**Grading:**

Homework 25%

First Exam 25%

Second Exam 25%

Final 25%

Week Of:	Topics	Reading
Aug. 24	Review of Classical Physics, Units, Intro. to Relativity	Chap.1, Chap.2
Aug. 31	Length-contraction, Twin paradox, Lorentz transform	Chapter 2
Sep. 7	Rel. vel. trans., Doppler effect, Rel. mom, mass & energy	Chapter 2
Sep. 14	Review, Exam 1	Ch. 1-2
Sep. 21	Photoelectric effect, Blackbody radiation	Chapter 3
Sep. 28	Compton effect, X-rays, pair-production	Chapter 3
Oct. 4	Matter Waves and De Broglie's principle	Chapter 4
Oct. 11	Heisenberg uncertainty principle	Chapter 4
Oct. 18	Schrodinger equation	Chapter 5
Oct. 25	Bound states, particle in box, harmonic oscillator	Chapter 5
Nov. 2	Steps and barriers, tunneling	Chapter 5
Nov. 9	Review, Exam 2	Ch. 3 - 5
Nov. 16	Atomic spectra, Bohr theory	Chapter 6
Nov. 23	Schrodinger eqn. in spherical coordinates	Chapter 7
Nov. 30	Spin and Spectroscopic Notation.	Chapter 7
Dec. 7	Zeeman effect, Fine Structure	Chapter 7
Dec. 18	Final Exam	