

PHY 3101 Schedule Spring 2006 (Subject to Change)

Week	Material	Reading Assignment	Homework Assignment	Announcements
#1: Jan 9	Course Introduction Syllabus, Policies	Chapter 1.1 – 1.5		
	Chapter 1: Relativity I Experimental Basis, Einstein Postulates			
#2: Jan. 16	Chapter 1: Relativity I Lorentz Transformations, Time Dilation and Length Contraction Doppler Effect	Chapter 1.6, 2.1-2.4	Problem Set 1 Due Fri., Jan. 20	MLK Day No class Monday, Jan. 16
	Chapter 2: Relativity II Relativistic Momentum			
#3: Jan. 23	Chapter 2: Relativity II Energy, Mass-Energy Conservation, (Invariant Mass)	Chapter 3.1-3.4	Problem Set 2 Due Fri. Jan. 27	
	Chapter 3: Quanta Charge quantization, blackbody radiation			
#4: Jan. 30	Chapter 3: Quanta photoelectric effect, X-rays and Compton effect	Chapter 4.1 – 4.6	Problem Set 3 Due Fri., Feb. 3	
	Chapter 4: Nuclear Atom Atomic Spectra, Rutherford model			
#5: Feb. 6	Chapter 4: Nuclear Atom Bohr model, X-ray spectra, (Franck-Hertz experiment)	Chapter 5.1-5.5		Exam 1: Friday, Feb 10 Chapters 1-3
	Chapter 5: Particles as Waves de Broglie waves and measurements			
#6: Feb. 13	Chapter 5: Particles as Waves wave packets, wave functions, probability, uncertainty principle and consequences, wave-particle duality	Chapter 5.6, 5.7	Problem Set 4 Due Fri., Feb. 17	
#7: Feb. 20	Chapter 6: Schrodinger Equation 1D infinite square well, expectation values and operators	Chapter 6.1-6.6	Problem Set 5 Due Fri., Feb. 24	
#8: Feb. 27	Chapter 6: Schrodinger Equation simple harmonic oscillator, reflection and transmission of waves	Chapter 7.1-7.3	Problem Set 6 Due Fri., Mar. 3	
	Chapter 7: Atomic Physics 3D Schrodinger equation			
#9: Mar. 6	quantization of angular momentum and energy, hydrogen wave functions, electron spin	Chapter 7.4-7.5		Exam 2: Friday, Mar 10 Chapters 4-6
MARCH 11-18, SPRING BREAK				
#10: Mar. 20	Chapter 7: Atomic Physics total angular momentum, spin-orbit coupling, 2 particle SE	Chapter 7.6	Problem Set 7 Due Fri., Mar. 24	

#11: Mar. 27	Chapter 8: Statistical Physics Classical statistics	Chapter 8.1-8.3	Problem Set 8 Due Fri., Mar. 31	
#12: Apr. 3	Chapter 8: Statistical Physics quantum statistics, (BEC)	Chapter 8.1-8.3	Problem Set 9 Due Fri., Apr. 7	
#13: Apr. 10	Class Selected Topics I	TBA	Problem Set 10 Due Fri., Apr. 14	
#14: Apr. 17	Class Selected Topics I	TBA	Problem Set 11 Due Fri., Apr. 21	
#15: Apr. 24	Class Selected Topics II	TBA	Problem Set 12 Due Fri., Apr. 28	
May 2	FINAL EXAM, 3 – 5 pm, NPB 1002			