

# Modern Physics, Fall 2012

	Monday	Wednesday	Friday
Aug.	27 The Principle of Relativity Six Ideas, Unit R, Chs. 1-2	29 The Nature of Time Chapter 3	31 The Metric Equation Chapter 4
September	3 <b>Labor Day</b>	5 Proper Time Chapter 5 <b>PS1</b>	7 Coordinate Transformations Chapter 6
	10 Length Contraction Chapter 7	12 The Cosmic Speed Limit Chapter 8	14 Four-Momentum Chapter 9 <b>PS2</b>
	17 Four-Momentum Conservation Chapter 10	19 Applications of 4-Momentum	21 Further Applications <b>PS3</b>
	24 <b>Review Session and Test</b> (Relativity)	26 Quantum Foundations T and Z, Chs. 3, 4, 6	28 Atomic Spectra Chapter 5
October	1 Wavefunctions 6.4 - 6.10	3 Complex Numbers Handout <b>PS4</b>	5 Particle in a Box 7.1 - 7.4
	8 The Schrodinger Equation 7.5 - 7.7	10 Qualitative Solutions of the S.E. 7.8 <b>PS5</b>	12 Numerical Solutions of the S.E. Handout
	15 Harmonic Oscillator 7.9	17 Scattering and Tunneling 7.10 - 7.11 <b>PS6</b>	19 <b>Fall Break</b>
	22 <b>Review Session and Test</b> (One-Dimensional Q.M.)	24 2-D and 3-D Boxes 8.1 - 8.3	26 Angular Momentum in 2D 8.4
	29 Angular Momentum in 3D 8.5 - 8.6	31 Hydrogen Energy Levels 8.7 <b>PS7</b>	2 Hydrogen Wavefunctions 8.8 - 8.10
November	5 Spin 9.1 - 9.3	7 Spin Measurements Handout <b>PS8</b>	9 Magnetic Effects of Spin 9.4 - 9.8
	12 Multi-Electron Atoms 10.1 - 10.5	14 The Periodic Table 10.6 - 10.9 <b>PS9</b>	16 <b>Review Session and Test</b> (Three-Dimensional Q.M.)
	19 Guest Lecture (Work on projects)	21 Guest Lecture (Work on projects)	23 <b>Thanksgiving Break</b>
	26 Guest Lecture (Work on projects)	28 Project Presentations	30 Project Presentations
Dec.	3 Project Presentations	5 Project Presentations	7 Project Presentations
	10 Project Papers Due 5:00 pm	12	14

(Taylor and Zafiratos chapter numbers are for the second edition. Add 1 for the first edition.)