

PHYS274 Course Schedule

Spring 2017

GSV

Week		Lecture #	Chap #	
1	9-Jan	1	35	Course Overview and Interference
	11-Jan	2	35	More Interference (thin films)
	13-Jan	3	35	Interference (non-reflective coatings, Michelson-Morley Experiment)
	16-Jan MLK day	--		
2	18-Jan	4	36	Diffraction
	20-Jan	5	36	Diffraction (N slits)
	23-Jan	6	36	Diffraction Intensity, resolving power, Xray diffraction
3	25-Jan	7	36	Review of Diffraction
	27-Jan	8	37.1 - 37.2	Special Relativity
	30-Jan	9	37.3 - 37.4	Special Relativity / Time Dilation
4	1-Feb	10	37.5	Special Relativity / Lorentz Transformations, Addition of Velocities
	3-Feb	11	37.6 - 37.8	Special Relativity / Doppler Effect, Relativistic Momentum, Work and Energy
	6-Feb	12	37.8 - 37.9	Special Relativity / $E = mc^2$
5	8-Feb	13	37.8 - 37.9	Special Relativity / Examples of $E = mc^2$
	10-Feb	14	Review	General Relativity, Review
	13-Feb	--		Midterm 1
6	15-Feb	15	38.1 - 38.2	Photons: the Photoelectric Effect
	17-Feb	16	38.2 - 38.3	Photons: X-ray production, Compton Scattering, Wave-Particle Duality
	20-Feb Prez day	--		
7	22-Feb	17	38.4	Heisenberg Uncertainty Principle
	24-Feb	18	39.1 - 39.2	Particles behaving as waves
	27-Feb	19	39.3 - 39.4	Energy Levels in the Bohr model of the atom
8	1-Mar	20	39.5 - 39.6	Laser, continuous spectra
	3-Mar	21	40.1	Continuous spectra, Heisenberg uncertainty principle, Wavefunctions, Schroedinger Eq
	6-Mar	22	40.2	Quantum Mechanics
9	8-Mar	23	40.2 - 40.3	Quantum Mechanics
	10-Mar	24	40.4 - 40.5	Quantum Mechanics
	13-Mar	25	40.4 - 40.5	Quantum Mechanics (Particle in a Finite Box)
10	15-Mar	26		Quantum Mechanics (tunneling, simple harmonic oscillator)
	17-Mar	27		Quantum Mechanics (review tunneling, simple harmonic oscillator)
	20-Mar	--		Midterm 2
11	22-Mar	28	41.1 - 41.2	3-D Schroedinger's Equation, Particle in a 3-D box
	24-Mar	29	41.3	Hydrogen atom, orbital angular momentum and spin
	27-Mar	--		
12	29-Mar	--		
	31-Mar	--		
13	3-Apr	30	41.4 - 41.6	Zeeman splitting, Pauli exclusion principle
	5-Apr	31	41.7	Multi-electron atoms, X-ray spectra
	7-Apr	32	42.1	Molecular Bonds, Molecular Spectra
	10-Apr	33	42.2	Crystal lattice, solid state structures
14	12-Apr	34	42.3 - 42.4	Structure of Solids, Energy Bands
	14-Apr Gd Friday	--		
15	17-Apr	35	42.5 - 42.7	Metals, Semiconductors, p-n junction
	19-Apr	36	43.1 - 43.2	Nuclear decay processes; Radiocarbon dating
	21-Apr	37	43.3 - 43.4	Nuclear Activities, half-lives, more carbon dating
	24-Apr	38	43.7 - 43.8	Fission and Fusion
16	26-Apr	39	44.3	Particles and Interactions
	28-Apr	40	44.5	The Standard Model of Particle Physics
	1-May	41	suppl	Open Questions in Modern Physics
17	3-May last class	--		review/Big Quiz
	5-May			