

Rough Schedule, Fall 2014, Quantum I, Phys 6572

		Topics	Exercises Due
Wed Aug 27		Intro	
Fri Aug 29		Qbit Weirdness: Polarization	Exercises 1: Notation
Mon Sep 1	Labor Day		
Wed Sep 3		Qbit Weirdness: Mirrors	
Fri Sep 5			Exercises 2: Interferometers & Random Matrices
Mon Sep 8		Qbit Weirdness: Entanglement	
Wed Sep 10			
Fri Sep 12		Henley Fest	Exercises 3: Entanglement & Free Particles
Mon Sep 15		Magnetic Fields and Parallel Transport	
Wed Sep 17		Aharonov Bohm	
Fri Sep 19			Exercises 4: Aharonov-Bohm & Harmonic Oscillators
Mon Sep 22		Greens Functions and Propagators	
Wed Sep 24			
Fri Sep 26			Exercises 5: Propagators & Coherent States
Mon Sep 29		Path Integrals, Classical Limits	
Tues Sep 30	Prelim, 7:30-9:30 pm, Rock 115		
Wed Oct 1			
Fri Oct 3			Exercises 6: Path Integrals
Mon Oct 6		WKB and Instantons	
Wed Oct 8			
Fri Oct 10		Rotations and Spinors	Exercises 7: Quantum algorithms and WKB
Mon Oct 13	Fall Break		
Wed Oct 15		SO(3) and SU(2)	
Fri Oct 17		Angular Momentum & Lie Algebras	Exercises 8: Rotations, spin & spinors
Mon Oct 20	Guest: Alex Alemi	Group Representations	
Wed Oct 22	Guest: Alex Alemi	Group Representations	
Fri Oct 24	Guest: Alex Alemi		Exercises 9: Groups and representations
Mon Oct 27	Remote lectures	Bosons, Fermions, and Anyons	
Wed Oct 29	Remote lectures		
Fri Oct 31	Remote lectures		Exercises 10: Bosons, fermions & anyons
Mon Nov 3	Remote lectures	Chemical Bonds	
Wed Nov 5	Remote lectures		
Fri Nov 7	Remote lectures	Density Matrices	Exercises 11: Chemistry
Mon Nov 10		Second Quantization	
Wed Nov 12		Commutation relations: Bose & Fermi	Exercises 12: Density matrices
Fri Nov 14			
Mon Nov 17		Time dependent perturbation theory	
Wed Nov 19			
Fri Nov 21			Exercises 13: "Second quantization", resonance, & supersymmetry
Mon Nov 24		Fermi's Golden Rule, Resonances	
Wed Nov 26			
Fri Nov 28	Thanksgiving		
Mon Dec 1			Exercises 14: Cats
Wed Dec 3		Cats	
Fri Dec 5	Remote lectures		
Fri Dec 12			Takehome Final Due (negotiable)