	TENTATIVE SCHEDULE FOR PHYSICS 402, Spring 2009					
Date	**Mtg.#**	**Reading Assignment**	**Topic**	**HW Due**	**Exams**	
Week 1		Griffiths/Krane				
1/26	1	1.1-1.6, 4.1 / 1.1-1.4, 5.1, 5.3	Review of QM, QM in 3D			
1/28	2	4.1,4.3 / 7.1, 7.4	Angular Momentum Review			
1/30	3	4.2 / 7.2,7.2	Hydrogen Atom Review	#0		
Week 2						
2/2	4	4.2 / 7.2,7.2	H-atom Wavefunctions			
2/4	5	4.3 / 7.4	Angular Momentum Ladder Operators			
2/6	6	4.2,4.4,6.3 / 6.4, 7.6	Spectroscopy and Spin of the Electron	#1		
Week 3						
2/9	7	4.4 / *	Spinors, Pauli Spin Matrices			
2/11	8	6.1 / *	Stern-Gerlach and Time Independent Perturbation Theory			
2/13	9	6.1 / *	Time-Independent Perturbation Theory	#2		
Week 4						
2/16	10	6.1, 6.3 / *	2nd-Order Perturbation Theory and Fine Structure			
2/18	11	6.3 / 7.8	Spin-Orbit Interaction			
2/20	12	6.3 / 7.8	**J=L+S** Addition of Angular Momenta	#3		
Week 5						
2/23	13	6.4 / 7.7	Spins and Entangled States			
2/25	14	6.5 / *	Hyperfine Splitting and the 21-cm line			
2/27	15	7.2 / 8.7	He Atom	#4		
Week 6						
3/2	16	5.1 / 8.1	Pauli Exclusion Principle and He			
3/4	17		**Chapters 4, 6 (roughly)**		**EXAM #1**	
3/6	18	5.1, 5.2 / 8.2	Exchange			
Week 7						
3/9	19	5.2 / 8.3, 8.4	Excited States of He, Periodic Table			
3/11	20	10.1 / *	H2 Molecule, Bonding			
3/13	21	9.1 / *	Time Dependent Perturbation Theory	#5		
SPRING BREAK 16-20 MARCH						
Week 8						
3/23	22	9.1 / *	Two Level Systems, Quantum Computing, Entanglement			
3/25	23	9.1 / *	Sinusoidal Perturbation, Atomic Transitions			
3/27	24	9.2 / *	Absorption of Radiation, Selection Rules	#6		
Week 9						
3/30	25	9.3 / 8.8	Absorption, Spontaneous Emission, LASERs			
4/1	26	5.4 / 10.2	Quantum Statistical Mechanics			
4/3	27	5.4 / 10.5	Distinguishable And Indistinguishable Particles	#7		
Week 10						
4/6	28	* / *	Review			
4/8	29		**Chapters 5, 9 (roughly)**		**EXAM #2**	
4/10	30	5.4 / 10.5	Occupation Distribution Functions			
Week 11						
4/13	31	5.4 / 10.6	Photons in a box			
4/15	32	5.4 / 10.6	Density of States			
4/17	33	5.4 / 10.6	Superfluid He-4	#8		
Week 12						
4/20	34	* / *	Bose-Einstein Condensation			
4/22	35	5.4 / 10.6	Two-Fluid Model of SF He			
4/24	36	5.3 / 11.1-11.4	Electrons in a Crystal, Fermi Energy	#9		
Week 13						
4/27	37	* / 11.7	Cooper Pairing of Electrons			
4/29	38	8.1 / *	WKB Approximation			
5/1	39	8.2 / 12.7	Fowler-Nordheim Tunneling, STM			
Week 14						
5/4	40	7.1, 7.2 / *	Variational Principle			
5/6	41	10.2 / *	Aharonov-Bohm Effect I			
5/8	42	10.2 / *	Aharonov-Bohm Effect II	#10		
Week 15						
5/11	43	* / *	Review			
5/18	44		**FINAL EXAM [8 AM to 10 AM]**		**FINAL EXAM**	
		* means no reading assignment from this text. Look elsewhere!				