	TENTATIVE SCHEDULE FOR PHYSICS 371, SPRING 2017, Prof. Anlage					
Date	**Mtg.#**	**Tipler, 5th Ed**	**Serway, 3rd Ed**	**Blundell, 2nd Ed**	**HW Due**	**Topics**
Week 1						**RELATIVITY**
26-Jan	1	1-1	1.1-1.2			Introduction / Galilean Relativity
Week 2						
31-Jan	2	1-2	1.3-1.4		0	Speed of light same all frames / Michelson-Morley and other experiments
2-Feb	3	1-4	1.5		1	Time Dilation, Length Contraction, Notion of Space-Time
Week 3						
7-Feb	4	1-3	1.6 - 1.7			Lorentz transformations and invariance of space-time interval
9-Feb	5	1-3, 1-5	1.5, 1.6		2	Relativistic kinematics (velocity addition, Doppler effect)
Week 4						
14-Feb	6	1-6	1.5			Relativistic Paradoxes
16-Feb	7				3	4-vector notation
Week 5						
21-Feb	8	2-1, 2-2				Energy-Momentum 4-vector
23-Feb	9	2-3, 2-4	2.1 - 2.4		4	Relativistic Dynamics in Collisions and decays
Week 6						**THERMODYNAMICS**
28-Feb	10			Chaps 1 - 4		Thermodynamic Limit, Intensive and Extensive Variables, Heat, Temperature,
2-Mar	11			Chap 11	5	State Functions, Work, Internal Energy, First Law of Thermo
Week 7						
7-Mar	12			Chaps 12, 13		Isothermal, Adiabatic Processes, Second Law of Thermo, Carnot Engine
9-Mar	13			Chaps 13, 14	6	Heat Engines, Refrigerators, Entropy
Week 8						
14-Mar	14					**EXAM 1**
16-Mar	15			Chaps 16, 28		Thermodynamic Potentials, Phase Transitions, Latent Heat
			SPRING BREAK 20-24 March 2017			
Week 9						**QUANTUM MECHANICS**
28-Mar	16		10.1	Chaps 26, 5, 6		Perfect Gas, van der Waals gas, Kinetic Theory
30-Mar	17	3-1, 3-2	3.1 - 3.3		7	First Quantization, Blackbody spectra
Week 10						
4-Apr	18	3-3	3.4			PhotoElectric effect and the notion of a photon
6-Apr	19	3-4	3.5 - 3.6		8	Wavenumber and momenta of photon/Compton effect/Wave-Particle Duality
Week 11						
11-Apr	20	4-1 to 4-5	4.1 - 4.5			Bohr atom and concept of discrete levels and atomic transitions
13-Apr	21	5-1	3.6, 5.1		9	de Broglie hypothesis / particles as waves
Week 12						
18-Apr	22	5-2, 5-3, 5.4	5.2			Davisson-Germer experiment/electron microscope,Probability interpretation of the wavefunction
20-Apr	23					**EXAM 2**
Week 13						
25-Apr	24	6-1	5.6 - 5.7, 6.1 - 6.3			Motivating the Schrodinger equation
27-Apr	25	6-2, 6-3	6.4 - 6.5		10	The infinite square well
Week 14						
2-May	26	6-5	6.6			Quantum harmonic oscillator
4-May	27	5-5, 5-6, 5-7	5.4 - 5.5		11	Uncertainty principle at a qualitative level
Week 15						
9-May	28	6-4, 6-6	6.7 - 6.8			Observables and Expectation Values, Tunneling
11-May	29				12	Review
15-May	30					**FINAL EXAM (8 AM to 10 AM)**