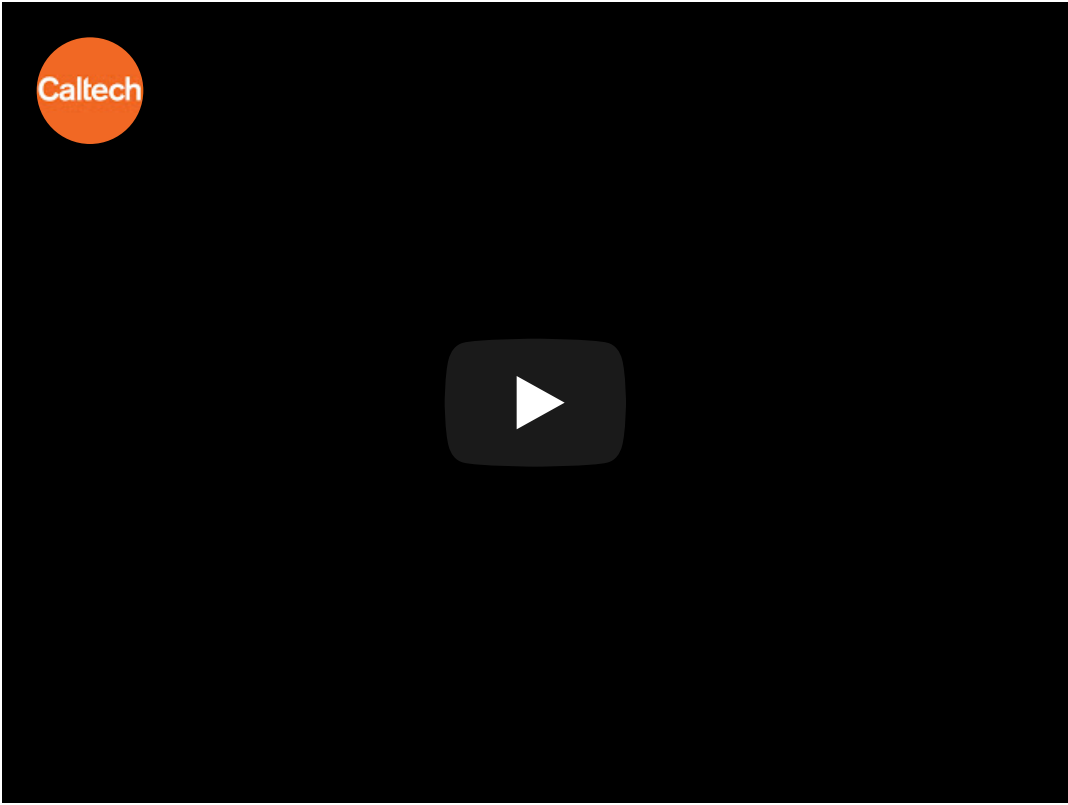




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Schedule

Physics 431 Course Schedule

Date	Topics	Readings	Problem Assignmen
	Introduction		
	Quantum mechanical magic		
8/25		Hey and Walters, Chap. 1-2	
	Wave equation and probability		
8/28	Probability spreadsheet Mathematica Example	1.1-1.3.1 pp.1-7	1.1,3,5 (You can use Mathematica)
8/30	Mean squared deviation, wave normalization	1.3.1-1.4, pp. 7-15	
9/1	momentum operator	1.5, pp. 15- 18	
	Uncertainty principle simulation		

9/4	Uncertainty principle	1.6, pp. 18-20	1.16,17,18 2.2
9/6	Stationary states	2.1, pp 24-29	
9/8	More stationary states Mathematica Fourier series example		
9/11	More Infinite square well Mathematica movie	2.2, pp.30-38	
9/13	More infinite square well		
9/15	Harmonic oscillator series solution - finiteness condition	2.3.2, pp 51-54	2.5,7 (Make movie of the probability a function of time for each problem) Due 9/22
9/18	Harmonic oscillator and infinite square well simulations (choose harmonic oscillator or infinite square well in menu)	2.3.2, pp 54-59	
9/20	Free particle - wave packet and Fourier transform	2.4, pp 59-63	
9/22	Free particle - phase and group velocity Phase and group velocity simulation	2.4, pp 64-65	

9/27	Finite square well		
	Finite square well		
9/29	Finite square well simulation (choose finite square well in menu)	2.6	
10/2	Finite square well		
10/4	Hilbert space	3.1, pp 93-96	2.16,22,29,30 (Due Friday Oct. 13)
10/9			
10/11	Observables Discrete spectra	3.2-3.3.1, pp 96-102	
10/13	Statistical interpretation	3.3.2-3.4, pp 103-109	
10/16	Uncertainty principle	3.5, pp 110-118	
10/18	Schroedinger equation in spherical coordinates	4.1.1-4.1.2, pp 131-140	
10/20	Test 1		
10/23	The radial equation The hydrogen atom	4.1.3 - 4.2.1, pp 141-156	
	The spectrum of hydrogen Angular momentum		



4.2.2, pp
157-160

10/25



4.3, pp
160-170

10/30

11/1

11/3

11/6

Semiconductors

11/8

Feynman Chapter 13

11/10

Stern-Gerlach Simulation

11/13

11/15

4.5,10,13, 2
32

11/17

Feynman Chapter 14
Feynman text corrections

(Due Friday
Dec. 1)

11/27


11/29

12/1

12/4

Final Exam, 3-5 pm

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