

Physics 335.01DS FA2017

Date	Information	Event Information
Week starting August 21, 2017		Course Initialization
	Partial Derivatives Worksheet	Worksheet 01
	Time Dilation Twin Paradox	Especially Simple Special Relativity Notes
		Gamma Factor vs. Beta Factor Spreadsheet
Week starting August 28, 2017	Simulations	Relative Motion: fixed , Comoving
	Time dilation, Length Contraction, Relativistic Velocity addition	Lorentz Transformations
Week starting September 04, 2017		Acceleration Transformations
	Space Time diagrams	Space-Time diagram Notes
	Simultaneity:Space - time intervals	Interactive Space-Time Spreadsheet 06
Week starting September 11, 2017		external: Interactive Space-time Diagram
		Twin Paradox and Muons
		Relativistic Doppler Shift Notes
		Classical Doppler Shift Animation
		Tabulated Results of Frank-Mary Experiment
Week starting September 18, 2017		Relativistic Momentum
	2-D Collision in two frames	Mary and Frank Collision Frank's Frame : Mary's Frame
		Relativistic Energy Derivations
		Worksheet 02
	The "Oh my God!" particle (backup)	Lab 01: Speed of Light Derivation Spreadsheet Calculator
September 19, 2017	Test 1	(approximate date given here)
Week starting September 25, 2017		Selected Topics from Chapter 3 e/m measurement determination of e Line spectra Photoelectric effect
		Millikan Oil Drop Experiment
		JJ Thompson Nobel Prize site From AIP
		Mass Spectrometer

Week starting October 02, 2017	Spreadsheet	Charge to Mass Ratio of the Electron Lab
		Images :Electron Beam : E over M Experiment
		Wave Particle Duality
	Blackbody radiation Java Applets	BlackBody Radiation Notes Image from RPI
Week of October 09, 2017	Electromagnetic Spectrum Chart	
Note: Fall Break October 12-13, 2017	Photoelectric Effect Spreadsheet	Photoelectric Effect Notes: lab : Java Simulation
		James Clerk Maxwell (1831-1879) Robert Bunsen (1811-1899) JJ Balmer (1825-1898) JJ Thompson (1856-1940) Ernest Rutherford (1871-1937) Niels Bohr (1885-1962) Prince Louis-Victor de Broglie (1892-1987) Albert Einstein (1879(Ulm)-1955) Leucippus of Miletus (480BC-420BC)
Week of October 16, 2017	Elemental Discharge Spectra Another link	Discharge Spectra Classification
	Bohr Model Java applets:	Bohr Model Worksheet and solutions
	Thompson model Java Applet	Rutherford Scattering : Java applets
Week of October 23, 2017	Nobel Prize Site	
	1914 : NP 1925 James Franck (1882 -1964) N Franck Hertz Simulations a: requires shockwave b: under java (German) Another link Experiment Notes [P] Gustav Hertz (1887 -1975) N (nephew of Heinrich Hertz)	Franck Hertz Simulations a: requires shockwave b: under java (German) Another link Experiment Notes [P]
Week of October 30, 2017	Elemental Discharge Spectra	Discharge Spectra Classification
	Bohr Model Java applets	Bohr Model Worksheet
	Thompson model Java Applet	Rutherford Scattering : Java applets
Week of November 06, 2017	Nobel Prize Site	
	1914 : NP 1925 James Franck (1882 -1964) N	Franck Hertz Simulations a: requires shockwave

	Gustav Hertz (1887 -1975) N (nephew of Heinrich Hertz)	b: under java (German) Experiment Notes [P]
	LAB: Frank Hertz Spreadsheet	An example of screen capture from Franck Hertz experiment
		Visible Discharge Spectra
November 9, 2017	Test 2	(approximate date given here)
		Wave Motion Notes
		Superposition of waves (beat formation)
		Co-moving Observer
		Moving Spreading Gaussian Wave packet
		Spreading Wavepacket with cars
		Slinky: Longitudinal Pulse :Collision Transverse Pulse: Collision
		Harmonic Traveling Wave on an Infinite String : 001 and Spooky
	Java Applet (External)	Fourier Synthesis for Sound
Week of November 13, 2017		Quantum Mechanics Notes 01
		1D Quantum Square Well Wave Functions
		1D QM square well java applet
		Mixed State 1D Quantum Square Well Wave Functions:2,3 : 2,4 : 3,5
		Quantum Mechanics Notes 02
Week of November 20, 2017		QM Worksheet
	The "Halloween" operator :)	
		Rectangular Barriers
	Quantum Wave Functions	Quantum SHO [W :O: P]: sloped square well
	They make really nice movies here	Wave functions extrodinare
		3D Quantum Square Well
		3D Square Well Spreadsheet
Thanksgiving Break	November 22 - November 26	
Week of November 27, 2017	Useful Page	QM solution for the Hydrogen Atom
		Magnetic Effects
		Probability Distribution Functions

		Total Angular Momentum
		How to use circles to show addition of angular momentum
	Health Physics Society	
	IAEA	Nuclear Physics 01 [P]
		Nuclear Physics 02 [P]
		Decay Scheme
		Stopping of radiation by physics text
November 30, 2017	Test 3	(approximate date given here)
December 04, 2017		Black Holes, General Relativity and nice movies
		Information on Moe Berg