Physics 123 Section 2 — Fall 2009

The reading assignments are based on the 6th edition. There are a few changes in the 7th - see the footnotes below.

Month	Day	Lecture Topic	Reading	P. Phor. Phn.	HW Due	Labs	Notes / Deadlines
Aug	31	Intro/Fluid Statics					
Sept	2	More Fluid Statics	Syllabus, 14.0-14.4				
	4	Fluid Dynamics	14.5-14.7		#1		
		Labor Day - No Class	Duties of Citizenship[a]			#1 Start	
	9	Temperature	19.0-19.5		#2	Pressure	Monday the 7th is a
	11	Heat	20.0-20.3		#3	#1 Due	Holiday
	14	Work from Heat	20.4-20.6		#4	#2 Start	
	16	Heat Transfer	20.7		#5	Specific Heat	
	18	Ideal Gas	21.0-21.2, 21.4[1]		#6	#2 Due	
	21	Maxwell-Boltzman Gas	21.3, 21.5-21.7[2]		#7		
	23	Heat Engines	22.0-22.1, 22.5		#8		
	25	Engines	22.2-22.4		#9		
							RS Broadcast 26th
	28	Entropy	22.6-22.7		#10		
	30	What is Entropy?	22.8		#11		
Oct	2	Waves	16.0-16.2		#12		
							Gen. Conf. Oct 3-4
	5	Waves on a String	16.3-16.5	1	#13		Exam #1 Oct 5-7
	7	The Wave Equation	16.6	2.0-2.3	#14		Covers HW 1-12
	9	Reflection and Transmission		3.0-3.5	#15		
	12	Sound Waves	17.1-17.3	5	#16	#3 Start	
	14	Doppler Efct, Superposition	17.4, 18.1		#17	Dispersion	
	16	Standing Waves	18.2-18.3	4	#18	#3 Due	
	19	Resonance, Beats	18.4-18.5, 18.7		#19	#4,5 Start	
	21	Fourier Transforms		6.0-6.5	#20	Stand. Waves	
	23	More FT		6.6-6.7	#21	#4,5 Due	
	26	Music		7	#22	#6 Start	Proposal Due
	28	Light, Reflection, Refraction	35.1-35.5		#23	Fourier Transforms	
	30	Huygen, Fermat, Dispersion	35.6-35.9[3]		#24	#6 Due	Exam #2 Oct 29-31
							Covers HW 13-23
Nov	2	Mirrors	36.1-36.2		#25		
	4	Lenses	36.3-36.4		#26		
	6	Aberrations, Imaging Devices	36.5-36.7		#27		
	9	More Devices	36.8-36.10		#28	#7	
	11	Wave Nature of Light	37.1-37.4[4]		#29	Telescope	
	13	More on Light Waves	37.5-37.7		#30	#7 Due	
	16	Diffraction	38.1-38.2		#31	#8,9,10 Start	Prog. Report Due
	18	More Diffraction	38.3-38.4[5]		#32	Interferometer	
	20	Polarization	38.5-38.6		#33	Diffraction	
						Brewster's Angle	
	23	N-dimensional Waves		8	#34		
	24	Holography		9	#35	#8,9,10 Due	Friday instruction on 24th
	25	Thanksgiving	Thanksgiving Proclamation[b]				
	27	Break Nov 25-27	Proper Roll of Government[c]				
	30	Introduction to Relativity	39.0-39.3		#36	#11[6] Holography	Exam #3 Dec 1-3
Dec	2	Special Relativity	39.4		#37		Covers HW 24-36
	4	Relativistic Transformations	39.5-39.7		#38		
	7	$E=mc^2$	39.8-39.9		#39		
	9	General Relativity		11.0-11.3	#40		Project Due
	10	NOTE: even though this is a Thursday, HOMEWORK IS DUE!			#41		
	15	FINAL EXAM	Tuesday	3:00 p.m. To 6:00 p.m.			FINAL EXAM

Footnotes:

1 - 21.4 does not discuss the specific heat of solids - so pay attention in class.

2 - 21.6 and 21.7 don't exist in the 7th edition. Most of the material was combined into 21.5, but not the discussion of mean free path - so pay attention in class.

3 - 35.9 (Fermat's principle) doesn't exist in the 7th edition - pay attention in class.

4 - The material in 37.2-37.4 is rearranged, but everything is there except phasor addition. But phasors are the same thing as complex exponentials, which we will have already covered with a reading in Physics Phor Phynatics.

5 - 38.4 does not discuss the resolving power of a diffraction grating. I have placed a "handout" online, and we will discuss it in class as well.

6 - Lab 11 is a special lab. It will be done in groups. You will need to sign up for a time slot to do this lab.

a - http://www.edchange.org/multicultural/speeches/theodore_roosevelt_duties.html

b - http://millercenter.org/scripps/archive/speeches/detail/3447

c - http://www.laissez-fairerepublic.com/benson.htm