

Physics 120 Schedule Fall 2013

Week	Class Day	Date	Test	Topic	Book Section	Hyperphysics Reading	Applets	Homework Due	
1	Wed	4-Sep		Introduction		http://hyperphysics.phy-astr.gsu.edu/hbase/ligcon.html#c1			
2	Fri	6-Sep		About light and properties of waves.	1.1; 1.2; 1.3	http://hyperphysics.phy-astr.gsu.edu/hbase/wavrel.html	http://phet.colorado.edu/en/simulation/radio-waves http://www.phys.hawaii.edu/~teb/java/ntnujava/emWave/emWave.html		
2	Mon	9-Sep		Electromagnetic radiation; EM Spectrum.	1.4	http://hyperphysics.phy-astr.gsu.edu/hbase/ems1.html	http://chair.pa.msu.edu/applets/Spectrum/a.htm	1	
4	Wed	11-Sep		Light and shiny surfaces: reflection, image reversal, corner cubes.	2.3 - 2.4	http://hyperphysics.phy-astr.gsu.edu/hbase/phyopt/reflectcon.html#c1		2	
5	Fri	13-Sep		Lab 1: Flat mirrors and light rays.	3.1 - 3.2	http://hyperphysics.phy-astr.gsu.edu/hbase/phyopt/fermat.html#c1	http://www.phy.ntnu.edu.tw/oldjava/optics/image_e.html http://www.phys.ufl.edu/~phy3054/light/mirror/applets/planmir/Welcome.html		
3	Mon	16-Sep		Light and non-shiny white and black surfaces: Scattering.	2.4			3	
7	Wed	18-Sep		Color as part of the EM spectrum and perceiving color.	9.1- 9.3	http://hyperphysics.phy-astr.gsu.edu/hbase/vision/colviscon.html#c1		4	
8	Fri	20-Sep		Lab 2: Additive color mixing.	9.4 - 9.5	http://hyperphysics.phy-astr.gsu.edu/hbase/vision/addcol.html	http://phet.colorado.edu/en/simulation/color-vision		
4	Mon	23-Sep		Color Filters.	11.3 - 11.4	http://hyperphysics.phy-astr.gsu.edu/hbase/vision/filter.html	http://cs.brown.edu/exploratories/freeSoftware/repository/edu/brown/cs/exploratories/applets/combinedColorMixing/combined_color_mixing_java_browser.html	5	
10	Wed	25-Sep		Interference and Diffraction Gratings.	12.2 - 12.3	http://hyperphysics.phy-astr.gsu.edu/hbase/phyopt/grating.html	http://phet.colorado.edu/en/simulation/wave-interference	6	
11	Fri	27-Sep		Lab 3: Diffraction Gratings.					
5	Mon	30-Sep		Sources of light and color.	1.4, 15.3	http://hyperphysics.phy-astr.gsu.edu/hbase/mod6.html	http://phet.colorado.edu/en/simulation/blackbody-spectrum	7	
13	Wed	2-Oct		Fluorescence, Phosphorescence, Quantum Dots.	15.3	http://hyperphysics.phy-astr.gsu.edu/hbase/mod5.html	http://www.viewfromscience.com/documents/webpages/nanocrystals.html	8	
14	Fri	4-Oct		Lab 4: Investigating Spectra, spectrometer and light sources.		http://hyperphysics.phy-astr.gsu.edu/hbase/quantum/atspect.html	http://phet.colorado.edu/en/simulation/discharge-lamps		
6	Mon	7-Oct		Exam 1 [up to 10/4; 9 lect, 4 labs]					
16	Wed	9-Oct		Lasers	15.4	http://hyperphysics.phy-astr.gsu.edu/hbase/optmod/qualiq.html#c1	http://phet.colorado.edu/en/simulation/lasers	9	
17	Fri	11-Oct		Lab 5: Lasers					
7	Mon	14-Oct		Subtractive color mixing, Pigments and paints.	9.6 - 9.9	http://hyperphysics.phy-astr.gsu.edu/hbase/vision/subcol.html#c1	http://chair.pa.msu.edu/applets/CYMCOLOR/a.htm	10	
19	Wed	16-Oct		Scattering of light: Sunsets, blue sky, horizon, white clouds.	13.1 - 13.2	http://hyperphysics.phy-astr.gsu.edu/hbase/atmos/blusky.html#c2	http://cs.brown.edu/exploratories/freeSoftware/repository/edu/brown/cs/exploratories/applets/spectrum/rob_insufficiency_java_browser.html	11	
20	Fri	18-Oct		Lab 6: Subtractive Color Mixing.					
8	Mon	21-Oct		Issues related to Color Perception.	10.1 - 10.7	http://hyperphysics.phy-astr.gsu.edu/hbase/vision/colper.html	http://people.cornellcollege.edu/dsherman/illusions/	12	
22	Wed	23-Oct		Light as a polarized wave.	1.2, 13.3 - 13.6	http://hyperphysics.phy-astr.gsu.edu/hbase/phyopt/polarcon.html#c1	http://facstaff.uww.edu/sahyuns/physics/ph14e/ph14e/emwave.htm	13	
23	Fri	25-Oct	WAPT	Lab 7: Polarizers.	App. M	http://hyperphysics.phy-astr.gsu.edu/hbase/phyopt/polcross.html#c1	http://chair.pa.msu.edu/applets/polarizers/a.htm		
9	Mon	28-Oct		Polarized scattering, reflection and birefringence.	13.7 - 13.10	http://hyperphysics.phy-astr.gsu.edu/hbase/phyopt/biref.html#c1		14	
25	Wed	30-Oct		Circular polarization.	13.8 - 13.10	http://hyperphysics.phy-astr.gsu.edu/hbase/phyopt/polclas.html	http://www.ub.edu/javaoptics/index-en.html	15	
26	Fri	1-Nov		Lab 8: Polarized effects: Brewster's angle and sunglasses.	13.4, App. L	http://hyperphysics.phy-astr.gsu.edu/hbase/phyopt/polref.html			
10	Mon	4-Nov		Mirrors, beam splitters and thin films. Reflection by interference.	12.2 - 12.3	http://hyperphysics.phy-astr.gsu.edu/hbase/phyopt/thinfil.html	http://www.ub.edu/javaoptics/index-en.html	16	
28	Wed	6-Nov		Curved mirrors	3.3	http://hyperphysics.phy-astr.gsu.edu/hbase/geoopt/mirrav.html	https://stori.uww.edu/physics/courses/physcs360/thinlens.html	17	
29	Fri	8-Nov		Lab 9: making thin films.					

11	30 Mon	11-Nov	Exam II [Up to 11/8; 9 lect, 5 lab]					
	31 Wed	13-Nov	Refraction and dispersion: rainbows, clouds and white reflectors; TIR.	2.5, 2.6	http://hyperphysics.phy-astr.gsu.edu/hbase/atmos/rainbowcon.html#c1	http://www.ub.edu/javaoptics/index-en.html http://people.seas.harvard.edu/~jones/ap216/applets/jav_phys_math/java/totintref/index.html	18	
	32 Fri	15-Nov	Exam II retake	Lab 10: Refraction, TIR, and fiber optics.	http://hyperphysics.phy-astr.gsu.edu/hbase/phyopt/totint.html	http://phet.colorado.edu/en/simulation/bending-light http://facstaff.uww.edu/sahyuns/physics/ph14e/ph14e/refraction.htm	19	
12	33 Mon	18-Nov	Lenses and images	3.4	http://hyperphysics.phy-astr.gsu.edu/hbase/geoopt/raydiag.html	http://phet.colorado.edu/en/simulation/geometric-optics		
	34 Wed	20-Nov	Aberrations	3.5	http://hyperphysics.phy-astr.gsu.edu/hbase/geoopt/aberrcon.html	http://www.microscopyu.com/tutorials/java/aberrations/astigmatism/	20	
	35 Fri	22-Nov	Lab 11: Thin Lenses			https://stori.uww.edu/physics/courses/physcs360/thinlens.html	21	
13	36 Mon	25-Nov	The Eye	5.1-5.3	http://hyperphysics.phy-astr.gsu.edu/hbase/vision/eyescal.html#c1	http://www.ub.edu/javaoptics/index-en.html		
	37 Wed	27-Nov	3D vision and 3D displays.	8.1 - 8.4	http://www.zecotek.com/EN/3d_display_methods/	http://www.holovision.com/overview-of-current-methods-of-3d-display.html	22	
	Fri	29-Nov	Thanksgiving					
14	38 Mon	2-Dec	Paper Draft	Making 3-D images and movies: stereograms, anaglyphs and polarized movies.	8.5	http://graphicssoft.about.com/od/gimp/ht/3danaglyph-UkA.htm	https://www.youtube.com/watch?v=g_JRHtHpuSY http://www.youtube.com/watch?v=V6NuafoBwTs	
	39 Wed	4-Dec	Holography	14.1 - 14.6	http://hyperphysics.phy-astr.gsu.edu/hbase/optmod/holog.html		23	
	40 Fri	6-Dec	Lab 12: Holography	App. N				
15	41 Mon	9-Dec	Paper and Class Article Presentations					
	42 Wed	11-Dec	Last day of class	Review				
	Mon	16-Dec	Final Exam [Cumulative; 7 lect, 3 lab]	Final Exam 10:00 - 12:00				