

Physics 112: Light, Color and Vision

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Textbook: Seeing the Light, Optics in Nature, Photography, Color, Vision and Holography
By David Falk, Dieter Brill and David Stork

Lectures: MW 2:30-3:50

Grading:

Quizzes 20%, Midterm Exam 20%, Project/Presentation 20%, Participation/Worksheets 20% Final Exam 20%

Projected Class Schedule

Day	Topic	Reading
Jan 27	Introduction to the class. What is light?	1.1
Jan 29	Waves, sources of light	1.2,1.3
Feb 3	Geometrical optics, shadows, pinhole camera	2.1,2.2
Feb 5	Reflection and Scattering	2.3 (2.4)
Feb 10	Refraction	2.5
Feb 12	Dispersion – rainbows, prisms	2.6
Feb 17	Mirrors (flat)	3.1,3.2
Feb 19	Mirrors (spherical)	3.3
Feb 24	Lenses	.3.4
Feb 26	Cameras (w & w/o lenses)	4.1,3.2,4.3
Mar 2	Camera shutter & Movies	4.5,4.6
Mar 4	Midterm in Class	Chps 1-4
Mar 9	Molecular movies	Handout
Mar 11	Human eye basics I	5.2,5.3
Mar 16	Spring Break	-----
Mar 18	Spring Break	-----
Mar 23	Human eye basics II	Handout/Exp
Mar 25	Optical Instruments: Glasses	6.2
Mar 30	Optical Instruments: Telescopes and Microscopes	6.3,6.4
Apr 1	Human vision & perception	7.1,7.2
Apr 6	Human vision & perception	7.3,7.4,7.5
Apr 8	Depth perception I	8.1,8.2,8.3
Apr 13	Depth perception II	8.4, 8.5
Apr 15	Color I	9.1, 9.2, 9.3, 9.4
Apr 20	Color II	9.5, 9.6
Apr 22	Interference, Diffraction	12.1, 12.2, 12.3, 12.4, 12.5
Apr 27	Polarization, Scattering	13.2, 13.2, 13.3, 13.4
Apr 29	Project Presentations	-----
May 4	Project Presentations	-----
May 6	Review	-----

SPECIAL NEEDS: If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631) 632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students requiring emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information, go to the following website: <http://www.ehs.sunysb.edu/fire/disabilities/asp>