

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: Tuesday & Thursday 12:30-1:50

Grading:

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

Projected Class Schedule

Day	Topic	Reading
Jan 28	Introduction to the class. What is light?	1.1
Jan 30	Waves, sources of light	1.2,1.3
Feb 4	Geometrical optics, shadows, pinhole camera	2.1,2.2
Feb 6	Reflection and Scattering	2.3 (2.4)
Feb 11	Refraction	2.5
Feb 13	Dispersion – rainbows, prisms	2.6
Feb 18	Mirrors (flat)	3.1,3.2
Feb 20	Mirrors (spherical)	3.3
Feb 25	Lenses	3.4
Feb 27	Midterm in Class	Chapters 1-3
Mar 4	Cameras (w & w/o lenses)	4.1,3.2,4.3
Mar 6	Camera shutter & Movies	4.5,4.6
Mar 11	Molecular movies	Handout
Mar 13	Human eye basics I	5.2,5.3
Mar 18	Spring Break	-----
Mar 20	Spring Break	-----
Mar 25	Human eye basics II	Handout/Exp
Mar 27	Optical Instruments: Glasses	6.2
Apr 1	Optical Instruments: Telescopes and Microscopes	6.3,6.4
Apr 3	Human vision & perception	7.1,7.2
Apr 8	Human vision & perception	7.3,7.4,7.5
Apr 10	Depth perception I	8.1,8.2,8.3
Apr 15	Depth perception II	8.4, 8.5
Apr 17	Color I	9.1, 9.2, 9.3, 9.4
Apr 22	Color II	9.5, 9.6
Apr 24	Interference, Diffraction	12.1, 12.2, 12.3, 12.4, 12.5
Apr 29	Polarization, Scattering	13.2, 13.2, 13.3, 13.4
May 1	Project Presentations	-----
May 6	Project Presentations	-----
May 8	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>