

# Physics 112: Light, Color and Vision

Professor: Tom Weinacht

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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 10% Final Exam 30%

## *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	Light detection	Handout
Mar 4	Cameras (w & w/o lenses)	4.1,3.2,4.3
Mar 6	Camera shutter & Movies	4.5,4.6
Mar 11	Midterm in Class	Chps 1-4
Mar 13	Molecular movies	Handout
Mar 18	Spring Break	-----
Mar 20	Spring Break	-----
Mar 25	Human eye basics I	5.2,5.3
Mar 27	Human eye basics II	Handout/Exp
Apr 1	Optical Instruments: Glasses	6.2
Apr 3	Optical Instruments: Telescopes and Microscopes	6.3,6.4
Apr 8	Human vision & perception	7.1,7.2
Apr 10	Human vision & perception	7.3,7.4,7.5
Apr 15	Depth perception I	8.1,8.2,8.3
Apr 17	Depth perception II	8.4, 8.5
Apr 22	Color I	9.1, 9.2, 9.3, 9.4
Apr 24	Color II	9.5, 9.6
Apr 29	Interference, Diffraction	12.1, 12.2, 12.3, 12.4, 12.5
May 1	Polarization, Scattering	13.2, 13.2, 13.3, 13.4
May 6	Project Presentations	-----
May 8	Project Presentations	-----

**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>