Light and Color

PHYS 12500-01 Syllabus

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Office hours: Anytime during the day, you are welcome to stop by. But I may be hiding in the lab, so email is always a good way to catch me.

Course requirements:

Textbook: Seeing the light
By D. Falk, D. Brill and D Stock. (Published by John Wiley & Sons, Inc)

Lectures: Tuesday and Thursday 3:00 pm - 4:15 pm, KT 132

Grading:

Homework assignments	30%
In class quizzes	20%
Midterm Exam 1 (Thur. 02/03)	10%
Midterm Exam 2 (Thur. 03/03)	10%
Midterm Exam 3 (Tue. 03/31)	10%
Final Exam	20%

General Policies:

1. Final grade assignment:
   A^+ = 97%-100% (4.0GP) A= 93-96.99% (4.0 GP) A^- =90%-92.99% (3.7 GP)
   B^+ = 87%-89.99% (3.3GP) B= 83-86.99% (3.0 GP) B^- =80%-82.99% (2.7 GP)
   C^+ = 77%-79.99% (2.3GP) C= 73-76.99% (2.0 GP) C^- =70%-72.99% (1.7 GP)
   D^+ = 67%-69.99% (1.3GP) D= 63-66.99% (1.0 GP) D^- =60%-62.99% (0.7 GP)
   F = 0-59.99% (0 GP)
2. Homework assignments are due by 4:30 on the indicated dates. Late submission may be accepted for partial credit. One half of the full score of that assignment will be taken off **PER DAY** past due.
3. All in class quizzes are "pop-up" quizzes. Absolutely **NO** make-up quizzes.

Objective of the class:

This is a general education course. The course is designed to help you obtain the fundamental, yet very important knowledge about light and color, as well as a general picture of science, physics, and optics. More importantly, the lecture will involve heavy discussions to help you build the skills for critical thinking and logical analyses. Therefore, you are encouraged to apply the knowledge to explain the problems you may come across in your life.

Tentative Schedules

Week	Days	Activities
1/11	T	Introduction
	Th	Ch0. What is science
1/18	T	Ch1. What is light
	Th	Ch2. Geometric optics
1/25	T	Ch2. Reflection and refraction
	Th	Ch3. Mirrors and lenses
2/1	T	Ch3. Image formation
	Th	**Midterm Exam I**
2/8	T	Ch3. More on image.
	Th	Ch4. Camera and photography
2/15	T	Ch4&6. Optical instruments
	Th	Ch4&6. Optical instruments II
2/22	T	Ch5. Vision
	Th	Ch5, 7-8. Light and visual effect
3/1	T	Ch7-8. Visual effect II
	Th	**Midterm Exam II**
3/8	T	Spring Break
	Th	Spring Break
3/15	T	Ch9. Color I
	Th	Ch9-10. Color II
3/22	T	Ch10-11. Color III
	Th	Ch9-11. Color IV
3/29	T	Spillovers: color and visual effect
	Th	**Midterm Exam III**
4/5	T	Spillovers: color and visual effect
	Th	Ch12. Waves
4/12	T	Ch12. Wave property of light
	Th	Ch12. Wave property of light II
4/19	T	Ch12-13. Scattering and polarization
	Th	Ch 12: impact of wave optics on visual effect
4/26	T	Spillover: advanced topics
	Th	
5/5	**Th**	**Final Exam on Thursday, May 5, 10:30-12:30.**