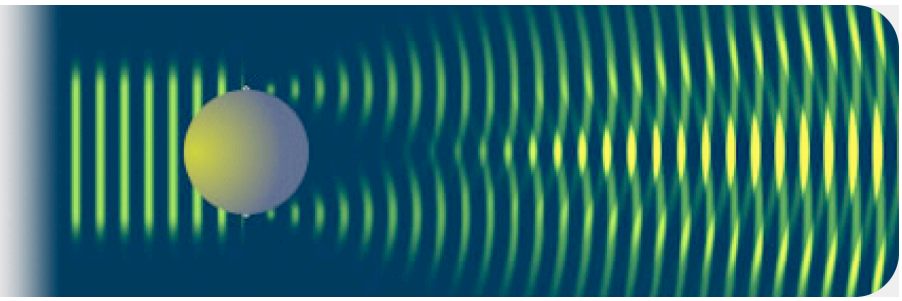
Optics
Phys 323



Class hours and location: Lecture Tue,Thu 9:00 - 10:20 Physics Room 123

Instructor Contact: Lucas Illing
Physics P230/ LAB P236
Phone: 517-7336
Email: illing@reed.edu

Office hours: TBA (+ by appointment)

Webpage: http://academic.reed.edu/physics/courses/Physics323.s09/index.html

Course Description

This course will provide an overview of classical optics including geometric optics, physical optics and laser physics. Time permitting we will cover more advanced topics such as fast and slow light.

Textbook (Pedrotti)[3] *Introduction to Optics*

Other Reference Texts
Hecht , *Optics* (on reserve);
Siegman, *Lasers;*
Fowles, *Introduction to Modern Optics;*
Born & Wolf, *Principles of Optics* (classic but advanced text)

Homework

There will be homework problems handed out at each class meeting, due at the next class meeting.

Presentation

There will be a group presentation (groups of 2) of a current scientific paper during the penultimate week of classes.

Evaluation:

Homework	45%
Midterm (12 March)	15%
Final	30%
In class presentation	10%

The midterm will be on the Thursday, 3/12, before spring break. The final, cumulative exam will be during exam week, time and date to be determined.

Late Homework Policy: Late homework will not be accepted without prior notification of appropriate circumstances.

Tentative Schedule

#	Date	Topic	Reading	HW
1	1/27 1/29	Geometrical Optics	2	1 2
2	2/3 2/5		18.1 - 18.7 (3 & 20)	3 4
3	2/10 2/12	Wave Optics	4 5	5 6
4	2/17 2/19	Interference	7	7 8
5	2/24 2/26	Laser	6 (26)	9 10
6	3/3 3/5	Gaussian Beams	27	11 12
7	3/10	TBD		13
	3/12	MIDTERM		
Spring break				
8	3/24 3/26	Polarization	14 23	14 15
9	3/31 4/02		15	16 17
		Diffraction	11 12	
10	4/07 4/09			18 19
11	4/14 4/16	Absorption and Dispersion	25	20 21
12	4/21	Talks		
	4/23	Advanced Topic		22
13	4/28 4/30			23
Reading Period				
Finals				