

## Spring 2016 Physics 342: Optics

**Location:** HN 1311

**Instructor:** Neepa Maitra  
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**Lecture Times:**  
Mo and Th: 11.10pm - 12.25pm

**Pre-requisites:**  
PHYS 120 or 121; MATH 250

**Office hours:** Mo and Th: 12.30pm-1.30pm  
or, by appointment.

**Recommended Text:** *Introduction to Optics, 3<sup>rd</sup> Edition*, by Pedrotti, Pedrotti, and Pedrotti (Pearson, Addison-Wesley, 2006); This text is recommended but not strictly required; if you have access to a different optics text, it might be suitable, come see me.

### Grading:

✓ Homework	5%	
✓ Quizzes	10%	
✓ 2 Midterm Exams	25% x 2	(tentatively Mar 14 <sup>th</sup> and Apr 21 <sup>st</sup> )
✓ Final Exam	35%	(11.30am—1.30pm May 23 <sup>rd</sup> )

### Syllabus:

Topic	Book chapter
Nature of Light	1
Wave Equations	4
Superposition of Waves	5
Lasers	6
Interference of Light	7
Interferometry	8
Coherence and Fourier Transform	9
Fiber Optics	10
Fraunhofer Diffraction	11
Diffraction Gratings	12
Fresnel Diffraction	13
Polarized Light	15
Holography	16

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