- OPTICS -

PHYSICS 462 - Syllabus

Spring 2015

Instructor : Dr. Channon Price, Reichardt 120, x6106, cpprice@alaska.edu
If you email me, include "PHYS 462" in the subject line so that I can promptly read your message.

Office hours : Monday through Friday, 8:00 am to 9:00 am, or when available (consult my calendar on google.alaska.edu under my email address.)

Class hours : MWF 11:45 am - 12:45 pm, Reichardt 207 and R 8:30 am - 11:30 am, Reichardt 113

Prerequisites : Physics 213, Physics 301. *Strongly recommended: Physics 220, Physics 342.*

Text : **Optics** by E. Hecht, 4th edition, Pearson/Addison-Wesley, 2002 (ISBN 0-8053-8566-5) See the course website for links to the book website and errata.

Topics: From the catalog: "Geometric optics, interference and diffraction theory, nonlinear optics, Fourier optics, and coherent wave theory." We will cover chapters 2-11 of Hecht at a fairly constant pace (roughly two chapters every three weeks). Additional materials may be distributed in class. See the course website for the reading schedule.

Grading : 4 credits. Homework (30%), labs (35%), and three examinations: a midterm test Wednesday 2/18 (10%), a midterm test Wednesday 4/1 (10%), and a final examination (15%) scheduled for Thursday, 5/7. See the course website for the homework assignments. Late homework will not be accepted, since solutions will be made available at the beginning of class on the due date. The labs are graded on both your participation and your report; you will be informed each week if a formal lab report is required. The examinations will be closed book; you can use any *handwritten* (not photocopied) notes. The course will be graded plus/minus.

Remarks : Homework will be assigned weekly on Monday and will be due one week following; solutions will be made available on the due date. The examinations will cover the material assigned for the homework sets; solutions will be made available at the end of each examination. Passing marks for the class will require substantial performance of the homework problems; the homework is a mutually diagnostic instrument, capable of informing the instructor *and* the student about learning difficulties, but only if all problems are attempted in an honest fashion. If you have completely mastered a problem, then a 'clean' copy of your solution may be submitted, but I am unable to give concrete aid if presented with a 'clean' version of your work. (Further, if you haven't finished a problem, it really is a waste of time to recopy it. Do not err too far in the other direction, either: I cannot give credit for work that I cannot read.) Even partial work is valuable; if you haven't finished a problem, you should still submit your work – you will get partial credit, and it can help us pinpoint the "sticking point" and thus assist you in getting past that point and on to success!

Without doubt, solutions for the homework problems can be found in various locations. Further, it is natural for students to work together. Those points notwithstanding, there are two things to remember. First, understanding of the material in this course will be greatly facilitated for the student who invests the time to master the detailed calculations. Second, it is against the UAF Honor Code to misrepresent work which is not your own; plagiarism on homework or on an exam will result in a failing grade.

I am here to help you learn. I will be happy to suggest alternate texts. Class participation, although not graded, is its own reward.

Website : The course website is located at http://137.229.43.8/physics/phys462.html

Accommodations : The Physics Department will work with the Office of Disabilities Services (203 WHIT, x5655) to provide reasonable accommodation to students with disabilities.