

University of Alaska Fairbanks

Spring 2022

Physics 462

Geometrical and Physical Optics – 4 Credits

Instructor – Dr. Mark Conde

http://**P**



Approximate Schedule

<i>Week</i>	<i>Dates</i>	<i>Class Topics</i>	<i>Lab Sessions</i>
1	Jan 10 - Jan 14	Class introduction Hecht. chapter 2	
2	Jan 17 - Jan 21	Hecht chapters 3,4	
3	Jan 24 - Jan 28	Hecht chapter 4	Lab 1
4	Jan 31 - Feb 04	Hecht chapter	Lab 2
	Feb 07 - Feb 11	Hecht chapter	Lab 3
6	Feb 14 - Feb 18	Exam 1 (Wed). Hecht chapter 6	Lab 4
7	Feb 21 - Feb 2	Hecht chapter 6	Lab
8	Feb 28 - Mar 04	Hecht chapter 8	Lab 6
9	Mar 07 - Mar 11	Spring Break	
10	Mar 14 - Mar 18	Hecht chapter 8,7	Lab 7
11	Mar 21 - Mar 2	Hecht chapter 9	Lab 8
12	Mar 28 - Apr 01	Exam 2 (Wed). Hecht Chapter 9	Lab 9
13	Apr 04 - Apr 08	Hecht chapter 10	Lab 10
14	Apr 11 - Apr 1	Hecht chapter 10	Lab 11
1	Apr 18 - Apr 22	Hecht chapter 11,12	
16	Apr 2 - Apr 29	Finals week	
17	Ma 02 - Ma 06	Grades posted	

Course components and instructional methods

Course materials4 u t o r t a n r e y a n r 0 r o / : a / a b a n 4 0 l a

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Exams

There will be two one-hour exams during the semester and one two-hour final. The preliminar dates for these exams are

- Exam 1: Wednesday February 16, 11:4 am
- Exam 2: Wednesday March 30, 11:4 pm
- Final: 10:1 a.m. - 12:1 p.m., Friday, April 29

Complex formulae and physical constants will be provided for exam problems that require them. Exams will be conducted using Gradescope. I will upload the exam papers to Gradescope, and set it to make the papers available at the start of the scheduled exam time. Above, I have deliberately only listed the exam start times. This is because I will in each case set Gradescope so that it will accept our responses until 1 pm on the day of the exam. Of course, this gives you more than the usual amount of time to complete the exam. However, my main reason for the extended time period is to ensure that you have enough time to upload our responses, in case of technical issues. (Email me if you still have problems stopping you from submitting on time.)

Course policies

Grading

The course grade will consist of the following components

Two one-hour midterm exams	20% (10% each exam)
One two-hour final exam	1 %
Homework	3 %
Lab	30%

I will post all grades online, using the UAF's "Blackboard" system (<https://classes.alaska.edu/>). All registered students have access to this system for checking their grades.

Final grades will be returned as letter grades with plus/minus modifiers. These will be

In contrast, you can make up for an occasional missed lecture by reading the textbook. Nevertheless, UAF policies³ include statements that:

“ you must begin attending classes on the first day of instruction or you may lose your place, regardless of whether or not you have paid tuition and fees”r

Course requirements and materials

Prerequisites

Prerequisites:

1. Undergraduate - UAF level PHYS F213X Minimum Grade of C-
2. Undergraduate - UAF level PHYS F301 Minimum Grade of C-

or permission of instructor.

Required text

Optics, 3rd, 4th or 5th editions, by Eugene Hecht. (Addison Wesley)

Note that I personally will be using the 4th edition of Hecht. It is ok to use the 3rd or 5th editions, but please let me know so I can check if there are any critical references to pages/chapter sections etc that are different.

There are no other supplemental texts assigned, although there are plenty of other good optics textbooks if you find you need additional explanations.

Technology Requirements

Course materials will be delivered via Blackboard, which means students will require easy web-browser access to the internet. Most material will be delivered in PDF format, so that students will need access to Adobe Acrobat Reader or other third-party equivalent software.

Calculators will be permitted (and required) during exams. There will be no need for anything elaborate.

ou may also discuss the matter with the Dean of the College of Natural Science and Mathematics.

Student Health and Counseling Center

The University provides health and counseling services through its Student Health and Counseling Center, which is located at 612 N. Chandalar Drive, on the 2nd floor of the Whitaker Building (the same building as Fire and Police, across from the bus turn around.) Their web site is at <http://www.uaf.edu/chc/>. The center will see students on an appointment basis. The number to call for an appointment is 474-7043. It is best to do so at 8:00 AM in the morning, because they are scheduled daily on a first come first serve basis.

Disabled students

Disability services are provided free of charge, and are available to any student who qualifies as a person with a disability. Student seeking special accommodations for a disability must first discuss their needs with Disability Services. Call 474- 6 to schedule an appointment.

UAF Disability Services is located in the Whitaker Building, room 208. Extensive support is available, as described at <http://www.uaf.edu/disability/>

As needed, I am happy to work with you, disability services, veterans' services, rural student services, etc. to find reasonable accommodations for all students' needs.

COVID-19 Statement

COVID-19 statement: Students should keep up-to-date on the University of Alaska policies, practices, and mandates related to COVID-19 by regularly checking this website:

<https://sites.google.com/alaska.edu/coronavirus/uaf/uaf-students?authuser=0>

Further, students are expected to adhere to the university's policies, practices, and mandates and are subject to disciplinary actions if they do not comply.

Other UAF Student Support Resources

Speaking Center (907-474- 470, speak @uaf.edu, Gruening 07).

Writing Center (907-474- 314, uaf-writing-center @alaska.edu, Gruening 8th floor).

UAF Math Services, uafmathstatlab @gmail.com, Chapman 30 (for math fee paying students only).

Developmental Math Lab, Gruening 406.

The Debbie Moses Learning Center at CTC (907-4 7-2860, 604 Barnette St, Room 120).

For more information and resources, please see the Academic Advising Resource List:

https://www.uaf.edu/advising/lr/SKM_364e19011717281.pdf

Emergency notification plan

Students will receive emergency notifications via phone or email. Please check our UAOnline account to confirm our emergency notification settings. For more information,

please refer to the Student Handbook. In cases where you do not have access to your devices, as your instructor, I will take responsibility to relay an emergency notification.

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