

2013

113-02 Our Universe- Color and Images Laboratory

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Our Universe – Color and Images Laboratory

PHYS 113-02

M 8:25 PM – 10:15 PM LND 203

Instructor: Dr. T. Matthew Fletcher

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In this course you will learn some of the physical and general science principles of optical science through the execution of key optical experiments. This is a one credit hour lab course. PHYS 112 lecture is a separate course with a separate grade. The topics covered in lab often complement the lecture, but some topics are independent material.

Lab Preparation: Prior to each lab, you must fully understand the procedure to be followed. **Read each lab handout prior to the lab period.** There is not enough time to tutor each group so being unprepared will cause long delays in executing the labs.

Lab Partners: You will work in pairs during the lab sessions. Both students in the pair are expected to participate fully. You must hand in your own individual lab memorandum. The Raw Data will be identical for each partner and may be shared but everything else in the memo must be your own work. **Placing your name on another student's technical memo does not count as handing in a lab. Treating the answers to questions, conclusions, or calculations as Raw Data is not compliant (even if completed during the lab period) and will not be counted towards your score.** If there are any questions see the instructor.

Due Dates: All lab technical memos are due at the beginning of the next lab period. Memos turned in late will be penalized. Memos turned in up to one week late will be reduced by 10%. Memos turned in up to two weeks late will be reduced by 20%. Per departmental policy, memos turned in more than 2 weeks after the due date are a zero unless prior arrangements are made. Attendance is mandatory at all lab sessions.

Technical Memos: Formal lab reports are not required. Once the experiment has been completed, you will prepare a technical memo summarizing the data, analysis and conclusion. A template for technical memos will be provided at the first meeting. Memos must contain all data and any graphs or diagrams generated during the analysis as well as answers to any questions. **This semester I will be modifying the technical memo requirements.** As indicated on the next page, five of the labs will complete a technical memo and five of the labs will be completed during the lab period. For these labs you will turn in a lab write-up at the end of the lab period.

If you turn in any digital lab reports it is your responsibility to use a file format that renders correctly. PDF is highly recommended but a postscript file will also render correctly in all cases. Note that Microsoft documents do not render uniformly (or even correctly) across all platforms (even across various MS Windows computers). I will grade what is actually rendered in all cases regardless of the author's intent. If you have any questions I am more than happy to provide assistance.

Photo Project: You will complete a photo project for this lab. The guidelines for this project will be provided after the mid-term.

The instructor reserves the right to alter this syllabus if circumstances dictate

Lab Exams: There will be a mid-term exam and a final exam. You are expected to understand the concepts behind each lab, as well as the procedure followed. The tests will be multiple choice and short answer. You should be able to perform the calculations and techniques used in the lab. The lab handouts will provide a good study guide.

Grading: Your laboratory grade will be determined as follows:

Lab Reports	50%
Photography Project	15%
Mid-Term Exam	15%
Final Exam	20%

A = 93-100%, A- = 90-92%, B+ = 87-89%, B = 83-86%, B- = 80-82%, C+ = 77-79%,
C = 73-76%, C- = 70-72%, D+ = 67-69%, D = 63-66%, D- = 60-62%, F = 0 – 59%

Courtesy: Please leave your cell phones, i-Pods, etc. turned off during class. Food is not permitted in the lab during class.

Laboratory Schedule

<u>Date</u>	<u>Experiment</u>	<u>Documentation</u>
Aug 26	Introduction to Physics 113	None required
Sep 2	Labor Day Holiday – No Lab	
Sep 9	Pendulum Lab	Memorandum
Sep 16	Plane Mirrors	Lab Hand-In
Sep 23	Curved Mirrors	Lab Hand-In
Sep 30	Refraction	Lab Hand-In
Oct 7	University Holiday – No Lab	
Oct 14	Lenses	Memorandum
Oct 21	Exam 1	
Oct 28	Telescope	Memorandum
Nov 4	Color Printing/Photo-Project Intro	Lab Hand-In
Nov 11	Eye	Memorandum
Nov 18	Diffraction	Lab Hand-In
Nov 25	Photo Project Due	Special Format
Nov 25	Spectrum	Memorandum
Dec 2	Course Review / Lab Make-up	Memo or write-up as required
Dec 9	<u>Final Exam</u>	

Note 2: One technical memo may be submitted for re-grading. The original Raw Data must be used and the re-grading will follow a much stricter compliance to the lab procedure. Memos submitted for re-grading must be submitted no later than Dec 2nd.

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