

Instructor: Prof. Carmen S. Menoni
Class Schedule: M-W-F 8-8.50 AM; Wagar 107 - Lab: TBD: ERC B212 (3 hr long)
Office: Engineering EC101E and ERC B325, tel: 491.8659

Email correspondence: to carmen.menoni@colostate.edu – Use in subject line: “ECE404” or email through CANVAS

- 11 experiments – Students must complete ALL to earn a passing grade. Labs start on the second week.
- The labs are set up for a week and students can come back to take more data if needed throughout the week.
- Work is done in groups of 2 students.
- Discussion among classmates is encouraged.
- A complete lab notebook with data and analysis of results is required for each experiment. Lab notebooks can be purchased at the CSU bookstore.
- It is suggested that before you come to the lab, you read the lab guide and write Part 1, 2 and 3 of the lab. You will then take data and will continue writing Parts 4, 5 and 6 in the lab notebook. You will need a lab notebook with numbered pages. All reports must be written in your lab notebook. The aim of the lab notebook is to provide sufficient information such that someone who reads it can perform the experiment.
- Starting on the third week, students will give power point presentations discussing the results of the lab. There will be a schedule for presentations developed on the first day of class on CANVAS. All presentations need to be uploaded into CANVAS before class.
- Grade is equally split between lab notebook reports and presentations.

Part #	Section	Grading: 100 points
1	Introduction describing technical concepts and objective	20
2	Experimental Setup	
3	Experimental Procedure	
4	Data and key observations	20
5	Results and analysis	40
6	Conclusions	10
7	Style and organization	10

Parts 1 and 2 to be completed ahead of the lab. They should not be a copy of the guide. Else, style points are 0. Parts 4 to be completed during lab. Part 5&6 to be completed after the lab. All reports must be written in the lab notebook. There is a printer in the classroom that allows you to plot data or pictures taken during the lab. You can paste material in the notebook during lab. Reports and presentations are individual work.

Graphs can be hand-drawn (step 1) or plotted with software (preferable). When software is used, print and paste in the notebook.

You need a lab notebook with pages numbered. Pages can not be cut out from the notebook. If a page is left intentionally blank, it has to be marked as such.

- From the second week onwards, we will meet once a week in the classroom and once in the lab. The lab is three hours long.
- The specific lab of the week will be mounted during a whole week for each student to have the opportunity to collect all data.
- If you need to get into the lab and it is locked, please come to see Prof. Menoni on B325 (ERC).
- There will be 3 presentations every week. Each student is given 10 minutes - and 5 minutes for discussion.
- Presentations should contain not more than 10 slides. Presentations need to include name of lab partners.
- The schedule of presentations will be posted on CANVAS. To accommodate this schedule, you will need to rotate lab partner.
- Presentations need to be in MS Powerpoint or Adobe pdf formats. They are uploaded in CANVAS prior to class.
- Presentations are students' chance to acquire communication skills.

For students to earn a passing grade, all labs and reports need to be completed. If after grading the results are found to be incorrect, or incomplete, students will need to repeat the experiment(s) and re-write report. Students who fail to complete all labs will receive an INCOMPLETE. Students have until the beginning of the following Spring semester (i.e. Spring 2025) to complete the reports.

A laboratory guide will be available in CANVAS one week ahead of the lab

LAB #	TITLE	WEEK	LAB REPORT DUE A WEEK AFTER
1	OPTICAL CAVITIES, ALIGNMENT AND STABILITY	2	
2	GAUSSIAN BEAM CHARACTERIZATION	3	Combined report of Lab 1 and 2
3	TRANSVERSE MODES IN AN OPTICAL CAVITY	4	YES
4	OUTPUT POWER VS DISCHARGE CURRENT FOR A HE-NE LASER	5	YES
5	BREWSTER ANGLE AND THE POLARIZATION OF LIGHT	6	YES
6	LIGHT EMITTING DIODE & LASER DIODE CHARACTERISTICS (A&B)	7	YES
7	NUMERICAL APERTURE OF OPTICAL FIBERS	8	YES
8	OPTICAL FIBER ATTENUATION	9	YES
9	OPTICAL FIBER LINK	10	YES
10	OPTICAL DOMAIN REFLECTOMETRY	11	YES
11	HOLOGRAPHY	12	YES

COVID REGULATIONS are those of Colorado State University

Masks are optional.

No food or drink allowed.

If you do not feel well, **DO NOT COME TO THE LAB or CLASS.** Let Prof. Menoni know and arrange with her how to do the lab when you are well.