

Physics 3704L: Modern Physics Laboratory

Course Outline

Description: (From the course catalog) “Experimental work designed to supplement PHYS 3704. Three hours per week.”

This course is part of the technical writing requirement for the physics major/minor. The writing elements in this course are divided into two parts:

REPORTS: Each report in this course will require draft writing and proof reading. Thus there will be considerable emphasis placed on the format of the lab report and the writeup (see website link to report template). The report should follow, as closely as possible, the format of articles published in *The Physical review*.

POSTER PANEL: each poster panel is meant to comprise 1/4 (so one 'thick' column) of a standard 3'x4' poster. The best panel contributions for a given lab will be assembled into a set of posters to be printed and displayed in the advanced lab room.

Prerequisites: (From the course catalog) Prerequisite or concurrent PHYS 3704.

Textbook: There is no textbook per-se for this course. Handouts for each of the laboratories will be given.

Attendance: Attendance will be recorded for each of the laboratory groups and sections. At the beginning of each laboratory section we will be meeting in the lab room (WSH 1001), Thursday from 9-12 am

All students in each group must be present in the laboratory during the laboratory and take part otherwise the lab cannot be done.

Laboratory Report: Each week you and your buddy do a lab together (except your 'bye' week). Buddies shift each week. See the posted schedule.

Each person has to be the "lead" on two experiments in each 7 week session, so that is you are lead on only 4 serious writeups all semester.

If your lab buddy is the lead that week then you are "support" and expected to contribute to the report.

The weeks you are not lead you may have to submit a panel for the labgroup poster the following week. The panel shall have five components. A title, author block, a purpose/description block, a picture+diagram of the apparatus, the data as a graph or two and a brief description of the result/conclusion. At the end of 7 weeks the whole class will vote on which panel submissions go into the final poster, and those authors will get extra points for that poster panel submission.

Before the lab after one in which you were a lead YOU MUST HAND THAT DRAFT (on paper) INTO THE INSTRUCTOR TO PROCEED WITH THAT WEEKS EXPERIMENT, NO EXCEPTIONS. IF YOU COME EMPTY HANDED YOU WILL NOT BE ABLE TO COMPLETE THE LAB THAT WEEK. Before the lab after the one in which you were a poster panel submitter YOU MUST HAND THAT PANEL (electronically, .pptx format only) INTO THE INSTRUCTOR TO PROCEED WITH THAT WEEKS EXPERIMENT, NO EXCEPTIONS. IF YOU COME EMPTY HANDED YOU WILL NOT BE ABLE TO COMPLETE THE LAB THAT WEEK.

To repeat, if "lead" the previous week, you will this week hand the draft ON PAPER. Not electronic. That draft is worth up to 70 percent of the final paper grade. The instructor will make corrections/suggestions for improvement and award up to 30% more for the corrections handed (and 30% on the rest of the paper) by the end of the seven week sequence. Every effort will be made to

get the written draft comments back to you in a timely fashion so that you might even be able to correct it in the same week.

The draft grade will comprise completeness, physical review format, description of how the error analysis is going to be computed and the legibility of the graphs/data tables (See rubric online).

The final draft grade will be on completeness, format, how completely corrections from draft that are addressed in the final copy, the cogency of the analysis, the rigor and application of the error analysis to the conclusions of the lab. You must turn in the graded/marked rough draft with the final draft, stapled together.

You can miss up to one lab in each 7-week session, more than that and you **WILL HAVE TO TAKE THE ENTIRE CLASS AGAIN**. You will still have to hand in 4 written labs and two poster panels over the course of the entire semester to pass.

Suppose you are there but your partner flaked. You hand in your panel or report (or not if it was a 'bye' week previously OR just nothing due) and proceed without them that week with the help of freinds and the instructor. If it was your partner's turn to turn in a report as lead, then anyways, you go on.

Grading Policy: Your grade will consist of your lab report grade average and your poster panel contributions. Your lab report average grade will count for %80 percent of your grade. The poster panel contributions will count for %20.

The grading scale will be

85+	A
75-85	B
60-75	C
50-60	D
50-	F

Lab List: We will complete 12 labs in Modern Physics over the course of the semester, 6 running concurrently each semester half. See the website/schedule for the list of this year's labs.

Contact Information: Mike Crescimanno

Office: 3276 Moser Hall

PH: 330-941-7108, Fax: 330-941-3121 e-mail: mjcrescimanno@ysu.edu OR dcphntn@gmail.com

Office Hours: Mondays 9-10, Tuesday 2-4pm, Fridays 3-5pm, but any(day-)time by appointment!

Important Note: Prof. Crescimanno only reads his Que-mail/360 mail once every week SO do not use it to communicate anything of any urgency to him! Use instead the regular gmail mailing addresses above.

Writing Intensive Course Statement: This course is one of the two General Education Requirements-Writing Intensive courses in our department. The grades in the course are entirely determined by the students' ability to express their work and reasoning through technical writing in the field. As such, the course integrates General Education Goals 1 (to write and speak effectively), 2 (to acquire, process and present quantitative and qualitative information using appropriate technologies, including computers) and 3 (to reason critically, both individually and collaboratively, to draw sound conclusions from information, idea and interpretations gathered from various sources and disciplines).

Blackboard and Web Site: We will make extensive use of blackboard for posting grades and items (HW, handouts) will also be alvailable through blackboard and through the course website at <http://mjcrescimanno.people.ysu.edu/modernLab>.

University Policies:

University policies can be found online and provide you guidance on your rights as a student in this course. The links below take you directly to a specific policy. Should you have any questions about a policy, please do not hesitate to contact me using the information in this syllabus.

(Online at <https://ysu.edu/institute-teaching-and-learning/syllabus-university-policies>)

Statement of Non-Discrimination from the University

Academic Integrity/Honesty

Student Accessibility

Incomplete Grade Policy

YSU Class Attendance Policy

Religious Accommodation of Students