

Oakland University

College of Arts & Sciences

Department of Physics

Fall 2018 PHY 1110: GENERAL PHYSICS/INTRODUCTORY PHYSICS LAB-II

Friday Sec. (8 – 10:27 AM)

Lab Manual: General Physics Laboratory II: Experiments (4th Edition, Cengage)

Co-requisite: PHY 1020 or PHY 1520

Instructors: K. Sharma, Dominic Crea

Email: ksharma@oakland.edu; dom120@juno.com

Office Hours: Dominic: Fri: 7:30-8 am; 10:30 – 11 am, 269 HHS

Sharma: Fri: 10:30 – 11:30 am, 156 HHS

Class Rooms: 269-HHS

Faculty In Charge: Gopalan Srinivasan

Office hours: 8-9 am: Mon, Wed, Fri. 2-3 pm: Tu, Th.

Room: 186F, MSC

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Course Content, Goals and Objectives

This laboratory course is on experiments in Electricity and Magnetism, Optics and Nuclear Physics.

You will have the opportunity to:

- learn how to use basic physical measuring devices;
- become familiar with selected physical laws and phenomena;
- get experience taking data and drawing conclusions from them;
- learn how to estimate and to combine experimental errors.

List of Experiments

Experiments 1 and 2: Ohm's law and DC and AC circuits

Experiment 3: Discharging and Charging a Capacitor

Experiment 4: Force on a Current Carrying Wire in a Magnetic Field

Experiments 5: Focal Length of a Lens and Image Formation

Experiment 6: Polarization of Light

Experiments 7 and 8: Diffraction and Interference of Light

Experiments 9 and 10: Helium and Hydrogen Line Spectrum

Experiments 11 and 12: Nuclear Counting Statistics and

Interaction of Radiation with Matter

• **12 experiments:** will be done during the semester. Each experiment will be done by a team of three persons, so everyone must choose their partners for the term in the first class meeting. Please read the Notes and Introductory comments in the lab manual for general information.

• **Preparation before class:** You should be familiar with the background theory and procedure for the day's experiment. Read the appropriate experiment description in the lab manual and review the questions. Come prepared to the class with a one-page introduction (use the page in your lab manual) and have a plan for your experiment and report.

• **During the class:** Follow the instructions in your lab manual and complete the experiment with data necessary for the analysis and questions asked in the manual.

Have your data sheets and computer print-outs initialed by the instructor before you leave. Reports with uninitialed data sheets will NOT be graded and be counted as zero.

• **Reports:** Each person must submit a report for every 2 experiments complete with Introduction, data, graphs, analysis, and answers to the questions (not the review questions) in the lab manual. **Reports are due on the dates given in this syllabus.** Late reports will NOT be graded and will be counted as zero.

COPYING DATA FROM PREVIOUS YEARS' REPORTS, TURNING IN OTHER'S DATA, OR MAKING UP DATA IS ACADEMIC MISCONDUCT AND WILL RESULT IN A GRADE OF 0 FOR THE COURSE AND REFERAL TO THE ACADEMIC CONDUCT COMMITTEE.

• **Absences:** If you miss a lab, you should arrange with your instructor to attend another lab session during the week when the experiment is offered. The approval of both yours and the make-up session's instructors is required.

• **Half-hour quizzes** will be given at the beginning of the class on **Oct.26 and Nov.16**

• **Grade determination**

Reports (12 experiments): 75% 2-Quizzes: 25%

Tentative grade scale: 100-95: A; 94-90: A-; 89-85: B+; 84-80:B; 79-75:B-; 74-70:C+; 69-65: C; 64-60: C-; 59-55: D+; 54-50: D; ≤ 49: F.

See REVERSE SIDE for CLASS SCHEDULE.

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<u>DATE</u>	<u>Experiment</u>	<u>Remark</u>
	Sept. 7 ----- NO LAB -----	
Sept. 14	Ex.1	Syllabus and Safety information.
21	Ex.2	
28	Ex.3	<i>Report 1 (on Ex. 1 and 2) due by class time</i>
Oct. 5	Ex.4	
12	Ex.5	<i>Report 2 (on Ex.3 and 4) due by class time</i>
19	Ex.6	
26	Ex.7	<i>Report 3 (on Ex.5 and 6) due by class time</i>
		Quiz-1 (Ex.1-4) at the beginning of class
Nov.2	Ex.8	
9	Ex.9	<i>Report 4 (on Ex. 7 and 8) due by class time</i>
16	Ex.10	Quiz-2 (Ex.5-8) at the beginning of class
23	NO LAB	
Nov.30	Ex.11 & 12	<i>Report 5 (on Ex.9 and 10) due by class time</i>
		No report needed for Ex. 11 and 12: Instructor will assign points based on performance in class
		<i>Course and Instructor evaluations</i>

Add/Drops

The University's add/drop policy will be explicitly followed. It is the student's responsibility to be aware of the university deadline dates for dropping courses.

Reasonable Accommodations

Accessibility and Accommodations: It is the University's goal that learning experiences be as accessible as possible. Students with disabilities who have questions about course accessibility are encouraged to contact the instructor immediately. The Office of Disability and Support Services (DSS) is available to help. The DSS office is located in room 103A North Foundation Hall.

For more information, call 248-370-3266 or visit <https://www.oakland.edu/dss>

Policy on Academic Misconduct

The University's regulations that relate to academic misconduct will be fully enforced. Any student suspected of cheating and/or plagiarism will be reported to the Dean of Students and, thereafter, to the Academic Conduct Committee for adjudication. Anyone found guilty of academic misconduct in this course may receive a course grade of F, in addition to any penalty assigned by the Academic Conduct Committee. Students found guilty of academic misconduct by the Academic Conduct Committee may face suspension or permanent dismissal. The full policy on academic misconduct can be found in the General Information section of the Undergraduate Catalog.

Excused Absence Policy

The University excused absence policy applies to participation as an athlete, manager or student trainer in NCAA intercollegiate competitions, or participation as a representative of Oakland University at academic events and artistic performances approved by the Provost or designee.

For the excused absence policy, see <https://www.oakland.edu/provost/policies-and-procedures/>

Student Preferred Name/Pronoun Policy

Course rosters are typically provided to the instructor with the student's legal names. If you do not identify with the name that is listed with the Registrar's office, please notify me. I will gladly honor your request to address you by an alternate name or gender pronoun. For more information on indicating a preferred first name on university records, please visit:

<https://www.oakland.edu/uts/common-good-core-resources/name-services/>