Winter-2020: PHY 1110  GENERAL PHYSICS/INTRODUCTORY PHYSICS LAB-II

Monday PM section 1:20 – 3:47 PM -- Class Rooms: 269-HHS

(The first 2 pages provide important information on the course and schedule. Details are provided in subsequent pages)


Instructors:
Dr. Jyothi Raman; raman2@oakland.edu; Office:160 HHS; Office hours:
Dominic Crea; dom120@juno.com; Office: 269 HHS;

Faculty In Charge:  Gopalan Srinivasan; Office hours: 8-9 am: M, W, F;  2-3 pm: Tu, Th.
Room:  186F, MSC; Email: srinivas@oakland.edu

• 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, data acquisition and analysis. Come prepared to the class with a one-page introduction (use the page in your lab manual).

• During the class: Instructors will discuss the experiment to be done for 15 to 20 min. Follow the instructions in your lab manual and complete the experiment with data necessary for the analysis. Have your data sheets and computer print-outs initialed by the instructor before you leave. Reports without initialed 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 March 2 and March 30. A 1-page formula sheet will be provided for the quizzes.
• 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.
<table>
<thead>
<tr>
<th>DATE</th>
<th>Experiment</th>
<th>Remark</th>
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<tbody>
<tr>
<td>Jan. 6</td>
<td>-- NO LAB SESSION --</td>
<td></td>
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</tbody>
</table>
| 13 | Ex.1 | *Syllabus and Safety information*
| 20 | | ----- *MLK DAY*  ----*No Lab*----- |
| 27 | Ex.2 | |
| Feb. 3 | Ex.3 | *Report 1 (on Ex.1 and 2) due by class time*
| 10 | Ex.4 | |
| 17 | Ex.5 | *Report 2 (on Ex. 3 and 4) due by class time*
| 24 | WINTER BREAK | -----*NO LAB*------ |
| Mar. 2 | Ex.6 | *Quiz-1 (Ex.1-4) at the beginning of class*
| 9 | Ex.7 | *Report 3 (on Ex. 5 and 6) due by class time*
| 16 | Ex.8 | |
| 23 | Ex.9 | *Report 4 (on Ex.7 and 8) due by class time*
| 30 | Ex.10 | *Quiz-2 (Ex.5-8) at the beginning of class*
| Apr. 6 | Ex.11 | *Report 5 (on Ex.9 and 10) due by class time*
| 13 | Ex.12 | *No formal report required for Ex.11 and 12. Data and graphs will be collected in the class and graded.*
Details on the Laboratory Course

Course Content, Goals and Objectives
This laboratory course is on experiments in Electricity, 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

Introduction: The laboratory meets weekly for 2 ½ hours and consist of twelve experiments to be performed in groups of three students. Please choose your partners (if possible) for the term. Best practice would be to exchange e-mail addresses and phone numbers. You may change partners for any reason.

Attendance and Missed Labs: Attendance to all laboratories is mandatory. The general policy is: no make-up labs.

In case of illness, or if unavoidable circumstances prevent you from attending the lab, please e-mail Dr. Srinivasan and/or your section instructors as soon as possible. You may be able to make-up the lab during a different session (10 sections of the lab - Days and Time: Mon and Wed: 1:20 pm and 5:30 pm; Tu and Thu: 7:30 am and 1 pm; Fri: 7:30 am and 1:20 pm)

Grades for missed labs, reports and quizzes will be taken as zero.

Reports: Reports are due after every 2 experiments and will be collected in the class. Even though you may have same data and graphs as your partners, you and your partners may not submit identical reports to avoid a grade of zero for the report.
Quizzes: There will also be two Quizzes of the duration of 30 min each. The quizzes will be at the beginning of the lab time. Please be punctual. Please notice: it is mandatory that each student takes both Quizzes in order to pass the Lab.

Final grade:

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

Total 100%

Grading:

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<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>95-100</td>
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<tr>
<td>A-</td>
<td>90-94</td>
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<tr>
<td>B+</td>
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<td>F</td>
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Common Courtesy Guidelines:

For your benefit and the benefit of your fellow students and your instructor, you are expected to practice common courtesy with regard to all course interactions.

- Show up for the lab on time.
- Turn off your cell phone and put away any iPod or other devices before entering the lab.
- Do not bring any food or drinks to the lab.
- Be attentive during the presentation and participate actively.
- If you must be late or leave early on a particular day, please inform your instructor well in advance. Documentation is required.
- Be kind and respectful to your fellow students and the instructor.

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/

Bereavement Policy

In the event of the death of certain members within families or among loved ones, the University grants necessary bereavement absences upon student request. For the official bereavement policy, see: https://www.oakland.edu/provost/policies-and-procedures/

Student Preferred Name/Pronoun Policy

The University recognizes that as a community many of its members use names other than their legal names to identify themselves. As long as the use of this different name is not for the purposes of misrepresentation or a legal name is required by University business, policy or legal need, the University acknowledges that a "preferred name" will be used wherever possible. The University reserves the right to not accept a preferred name if it is deemed inappropriate, including a preferred name that is vulgar, offensive, fanciful, or creates confusion with another person.