PHYS241
Electricity & Optics (Summer 2020)
Department of Physics & Astronomy
Purdue University
http://www.physics.purdue.edu/phys241/

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TEXTBOOK:
Physics for Scientists and Engineers, 6th Edition, Volume 2, Tipler and Mosca, Publisher: Bedford, Freeman and Worth, ISBN 1429284587. (older or used editions are acceptable as all homework is on CHIP)

COURSE STRUCTURE:
The course has two different components: lecture and recitation. The lectures will concentrate on developing an understanding of fundamental concepts. The recitations will be devoted to developing problem-solving skills.

PREREQUISITES:
PHYS 172 and MA 162 are prerequisites for this course. You are expected to have a good understanding of classical mechanics, be able to differentiate and integrate simple functions, and be familiar with vectors, including dot and cross products.

COURSE WEBPAGES:
You can find this syllabus, course announcements, learning center hours and other important resources on the PHYS 241D webpages:

PHYS 241D course webpage: http://www.physics.purdue.edu/phys241D/
CHIP Homework webpage: https://chip.physics.purdue.edu/public/241/summer2020/
Piazza Online Forum webpage: https://piazza.com/purdue/summer2020/phys241/home

Computerized Homework In Physics (CHIP) system is used to assign credit for homework completed during the semester. Instructions for CHIP are located on the website.

We will use Piazza for class discussions to assist you in getting help fast and efficiently from your classmates and the teaching assistants. Rather than emailing questions to the teaching staff, I encourage you to post your questions on Piazza. You can sign up for a Piazza account and enroll in our class page at: https://piazza.com/purdue/summer2020/phys241/. If you have any problems or feedback for the Piazza developers, email team@piazza.com.

Additional resource: Cyrus Vandrevala created a YouTube playlist where he goes through many common recitation problems in PHYS 241. The link to his site is: http://www.youtube.com/channel/UCIOz4UFF7XhpLoSeihwJTQ/videos

ASSIGNMENTS:
A reading and homework schedule is posted on the course webpage. The homework assignment schedule is also posted on the CHIP website. You should read the assigned
sections before coming to each lecture. Students who read the assigned material before class will find the lecture far more meaningful.

**LECTURES:**
The lectures will be used to introduce new material. All lectures have been pre-recorded and are posted online. Please log into Brightspace to access the lecture videos. If you have problems accessing the videos, please contact Itap. Most problems are associated with the web browser (e.g. old version or cookies not enabled).

Two lecture quizzes are due every week. After viewing a lecture, students are expected to complete a lecture **quiz** on the CHIP website. Each quiz will contain a few key ideas that were covered in the reading material and the lecture video of that day. There will be no make-up quizzes. However, your three lowest lecture quiz grades will be dropped at the end of the semester. You are free to watch the lecture videos and answer the lecture quizzes at your own pace for a given week. However, you will only have **one attempt** to take the lecture quiz.

**EXAMS:**
Exams are 2 hours and you have a day to start and finish them. Once you start you must finish it in one sitting.

- **Exam 1:** July 7 @ 8 PM – July 8 @ 8 pm
- **Exam 2:** July 21 @ 8 PM – July 22 @ 8 pm
- **Final:** TBA

**RECITATIONS:**
During Recitation, you will have the opportunity to discuss concepts and approaches for the homework problems. You are expected to read the assigned sections in the textbook (see course Calendar/Schedule posted online) and attempt all the assigned problems BEFORE attending Recitation, as the deadline for the homework is 11:59 PM on Sundays (see CHIP Homework below). If you are familiar with the problems then you will benefit more from the discussions in Recitation.

Recitations will be uploaded weekly to blackboard. Students will spend the recitation going over practice problems. After the recitation, students are expected to complete a **recitation quiz on the CHIP website.** The quiz will be available until 11:59 PM on Mondays. You are allowed to use your books and any notes that you have prepared for the class. However, peer discussion is not allowed during the quizzes. If you do not take the quiz by the end of the day on Mondays at 11:59 PM, you will receive a zero for the
day. There will be no make-up quizzes. However, your three lowest recitation quiz grades will be dropped at the end of the semester.

CHIP HOMEWORK:
There will be 14 Homework assignments. Each homework problem has randomly generated input values so each student will have a unique answer. Make sure that you use your own input values when solving each problem. To receive credit your answer must be within \( \pm 1\% \) of the correct answer, so you are advised to CARRY AT LEAST 4 SIGNIFICANT FIGURES IN YOUR CALCULATIONS. The CHIP grading policy is as follows: (for details, click on “Grading Policy Details” button in any CHIP assignment)

A – **Multiple-choice problems** have a limited number of attempts depending on the number of possible answers. If you answer correctly within the specified number of attempts and before the specified deadline, you will get 100% credit. Within one week after the deadline, but still within the allowed number of attempts, you obtain 50% credit. No credit is granted after one week past the deadline or if you used up the maximum number of attempts.

B – **Numerical problems** have a maximum of 5 attempts before the deadline to obtain 100% credit. If you require between 6-10 attempts before the deadline you will receive 50% credit. Within one week after the deadline and within 5 first attempts, you will receive 50% credit. Within one week after the deadline and using between 6-10 attempts, you obtain 25% credit. No credit is granted after one week past the deadline or after using all 10 attempts.

**GRADING POLICY:**
There are two evening exams and a final exam. The components of the letter grade and their maximum values are:

<table>
<thead>
<tr>
<th>Component</th>
<th>Maximum Value</th>
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<tbody>
<tr>
<td>Two Evening Exams</td>
<td>200</td>
</tr>
<tr>
<td>Final Exam</td>
<td>100</td>
</tr>
<tr>
<td>CHIP Homework Assignments</td>
<td>100</td>
</tr>
<tr>
<td>Recitation quizzes</td>
<td>75</td>
</tr>
<tr>
<td>Lecture quizzes</td>
<td>25</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>500</strong></td>
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Letter grades will be derived using a curve that has not yet been determined. It is possible to get a D or F in this course. We have no desire to give a certain percentage of C’s and D’s. We would like for all of you to earn A’s.

**ALERT:** During the semester, you should regularly check that your exam, homework, and quiz grades have been correctly entered into your Gradebook in CHIP. IT IS YOUR RESPONSIBILITY TO BRING ANY PROBLEMS WITH YOUR ASSIGNED GRADES TO THE ATTENTION OF YOUR INSTRUCTOR IMMEDIATELY, AND TO NOTIFY DR. LEWICKI IMMEDIATELY IF YOUR CHIP ACCOUNT IS NOT OPEN TO YOU.

**ABSENCES AND EXCUSED GRADES:**
There is no way to make up missed quizzes. Unexcused absences from any evening exam or quiz will be assigned a zero grade. For missed exams, a make-up exam will be arranged. **You must contact the instructor as soon as possible BEFORE the exam or quiz.** Excused grades for quizzes and homework will be given only in one of the following circumstances: (1) illness; (2) personal crisis (e.g., automobile accidents, required court appearance, incarceration, death of a close relative, weather conditions that make it impossible to get to the university); and (3) required attendance at an official Purdue activity (e.g.,
athletics). Appropriate documents (e.g., a written note from a doctor, with his/her name and phone number included) may be needed to judge the merit of the excuse. More than one exam or quiz will likely not be excused; MISSING THE FINAL EXAM CANNOT BE EXCUSED.

USEFUL INFORMATION:
Handouts are usually provided on the course or CHIP webpage. You can access the web from any PUCC computer.

CHEATING:
Just don't do it. It is not fair to other students or to you. And it won't be tolerated. If you are willing to put in the effort studying and practicing, you will have no problem earning a respectable grade. Working with other students on your homework is not considered cheating, and, in fact, is encouraged. However, direct copying of another's homework is considered cheating. This includes posting/using Chegg or Chegg like services.

If a student is found to be cheating on the homework or quizzes, he/she will receive a zero for that part of his/her grade, and possibly F for the course in more serious cases. A student who is caught cheating on an exam will receive an F for the course and be reported to the Dean of Students. In more serious cases the student will be suspended or expelled from the university. The same applies to all other parties involved in cheating.

HELP CENTER:
Help center will consist of webex meeting times and forum response. The webex meeting times will be posted on the Physics 241 website: http://www.physics.purdue.edu/phys241D/. These meetings will serve the same purpose as traditional help center. During a meeting time, you can quickly login into their room to ask a question and get immediate feedback.

In addition, Physics 241 will have forum (https://piazza.com/purdue/summer2020/phys241/home). Here, you can ask questions for instructors or peers to answer. This is usually better for frequently asked questions that don't require an immediate resolution.