PHYS 4202/6202: Electricity & Magnetism II
Syllabus

University of Georgia, Spring 2012
MWF Period 4 (11:15-12:05 PM), Room 327

Basic Information

Instructor: Professor Steven P. Lewis
Phone: 706-542-0158
307A Physics Building
Email: lewis@physast.uga.edu

Office hours: To be determined once student schedules have been handed in.

Homework: Reading assignments are to be completed before the class in which the material is scheduled to be discussed. Weekly problem sets are due by 4:00 pm every Friday, unless otherwise announced in class. See below for more detailed information.

Clinic: An optional (but recommended) problem-solving clinic will be held on Wednesdays, time and location to be announced.


Website: Homework, handouts, grades, and other information will be distributed via eLearning Commons: https://elc.uga.edu, course ID 12SP-38051-XL.

Prerequisites: PHYS 4201/6201

Email: You are expected to check your email daily for course announcements.

Grading Policy

Grade components: At the end of the semester, I will compute an overall score from your performance on exams and homework, weighted as follows:

- Cumulative final exam: 36%
- Three midterm exams: 48%
  - Best 22%
  - Middle 16%
  - Worst 10%
- Homework average: 16%

Letter grades: Ranges for letter grades will be no worse for you than the following:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
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<tbody>
<tr>
<td>A+</td>
<td>[Nonexistent]</td>
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<tr>
<td>A</td>
<td>[87-100]</td>
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<tr>
<td>A−</td>
<td>[85-87]</td>
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<tr>
<td>B+</td>
<td>[83-85]</td>
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<td>B</td>
<td>[77-83]</td>
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<td>B−</td>
<td>[75-77]</td>
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<tr>
<td>C+</td>
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<td>C</td>
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<td>C−</td>
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<td>D+</td>
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<td>[Nonexistent]</td>
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<td>F</td>
<td>[0-50]</td>
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</tbody>
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Here a square bracket means the end point is included in the range, and a round bracket (parenthesis) means the end point is not included in the range. Actual grade ranges may end up having lower cutoffs, depending on the overall level of performance.

100%-final option: The comprehensive final exam is your opportunity to demonstrate that you have broadly and coherently mastered the course material. This is, after all, the main goal of the course. Therefore, if all four of the following criteria are met, then your final exam score will replace your overall score in determining your letter grade. Here are the four criteria: (a) you have not missed any midterm exams, (b) your total midterm exam grade is at the passing level (C− or better), (c) your homework grade is also at the passing level (C− or better), and (d) your final exam score exceeds your overall score.

Regrade requests: Any requests for a regrade of an assignment or an exam must be made no later than one week after the item is returned. Keep in mind that for a regrade I may review the entire assignment/exam, not just one problem, and may raise or lower your score. Arithmetic errors in adding up points will be handled separately.

Borderline grades: Like any other measurement, grades possess a degree of uncertainty. Therefore, factors such as improvement may help borderline grades. (Lobbying, however, will not.) There is no extra credit in this course.

‘Incomplete’ grades: According to UGA policy, a grade of Incomplete “indicates that a student was doing satisfactory work but, for non-academic reasons beyond his/her control, was unable to meet the full requirements of the course. An Incomplete should not ordinarily be given unless the student has completed a substantial part of the course. The instructor of the course should indicate to the student the deadline for completing the work in the course. No more than three semesters (counting summer school as one semester) may be allowed to complete the work in the course, but the instructor may specify an earlier deadline. If an I is not satisfactorily removed after three semesters (counting summer school as one semester), the symbol I will be changed to the grade F (or U for a course graded S/U) by the Registrar.” I will adhere to this policy for this course.

Course withdrawal: Make sure you are familiar with the UGA policy on withdrawal from courses. You can find it online at the following URL:

http://bulletin.uga.edu/Bulletin_Files/acad/Courses.html

The withdrawal deadline for this semester is March 22. For withdrawals before the deadline, I will generally enter a grade of WP even for technically failing grades, if I judge that you have made a sincere effort in the class. Withdrawals after the deadline must be WF, unless the Office of the Vice President for Student Affairs permits a hardship withdrawal from all courses. See the above web page for further details.

Any student who is showing serious neglect for this course (e.g., failing to turn in homework or turning it in late, rarely or never attending class, etc.) may be asked to withdraw. A student missing 3 consecutive classes without adequate prior explanation will be considered eligible for an instructor-initiated withdrawal from the course. All such cases will be brought to the attention of the student’s academic advisor.
Exams

Number and rules: There will be three midterm exams and a cumulative final exam. They will all be closed-book and closed-notes. However, I may provide you with a sheet containing useful or difficult formulas. You may use a scientific calculator on exams for arithmetic only, not for algebra, calculus, graphing, or information storage; all programs and memory registers must be cleared. Unless told otherwise, you must show work on each exam problem in order to receive full credit.

Timing: Midterm exams will be two hours long and will be held in the evening (or some other suitable time) in order to give you extra time to complete them. The specific dates and times have not yet been determined. I will give further information on each exam before the exam date. Solutions will be posted to eLC after each midterm has been graded.

Make-up exams: If you need to miss an exam for a legitimate and documentable reason, you must contact me before the exam if at all possible, or else as soon as possible after the exam. Make-up exams will be given only for legitimate, documentable reasons and only if you notify me in a timely fashion. If you are uncertain as to what constitutes a legitimate and documentable reason for missing an exam, please ask me.

Final exam schedule: Friday, May 4, 12:00-3:00 PM in Room 327.

Homework

Reading Assignments:

- **Rationale:** The course textbook is well written and easy to read. Your time spent in class will be much more meaningful and beneficial if you read the textbook in advance.

- **Expectations:** You are expected to come to every class having read the portions of the textbook on the material to be covered in that class. In most cases, it will be obvious which section(s) to read; however feel free to ask me for clarification.

Problem Sets:

- **Logistics:** In general, weekly problem sets will be due at 4:00 PM every Friday. The pace of the class and changes to the schedule may necessitate different due dates, which will be announced in class (and perhaps by email or on eLC). Your write-ups should be either handed to me or placed in my mailbox in the departmental main office (Room 201). Do not slide assignments under my office door. Detailed homework solutions will be posted to eLC after the homework is due.

- **Write-up format:** The following rules must be adhered to for all write-ups handed in for credit: (a) Use letter-size (8½”×11”) paper, not legal-size paper. (b) Do not hand in papers with “fringe” from spiral notebooks. (c) Staple your pages in order in the upper left corner. A stapler is available in the main office. Do not use paper clips, bent-over corners, etc. (d) Write your name clearly in the upper right corner of the top page. (e) On the last page of your write-up, list all classmates you worked with. (f) Write legibly so that the grader can read your work easily.
• **Grading:** Problem sets will be graded by a graduate student assigned as the grader for this course (I will grade exams) and returned to you in a timely fashion. Disputes about the grading should be directed to me, and I will act as the final arbiter. Homework problems will be graded not only for correctness of the end result, but also on process. Be sure to express, clearly and legibly, the reasoning for your solutions.

• **Dropping lowest two:** If you complete the online student evaluation for this course during the official period at the end of the semester when the evaluations website is up, then I will drop your lowest two scores when calculating your homework average for semester grades. If you do not complete the evaluation, then all homework scores will be included in your homework average. This policy serves two functions: (a) it gives you an incentive to submit a course evaluation, and (b) it compensates for unavoidable circumstances that may prevent you from submitting homework on time (e.g., illness, scheduled event, emergency, etc.). *Late problem sets will not be accepted or excused.* If you have gotten this far, write “Got it!” on the upper left corner of your Agreements sheet before handing it in. Read on.

• **Teamwork vs. plagiarism:** Teamwork can be a very good way of learning, so I encourage you to interact with your classmates on homework. However, do not mistake teamwork for plagiarism; it is unacceptable, for example, to divvy up the problems and then swap solutions. The work you hand in *must be your own*, not copied, reworded, or paraphrased from someone else’s work. I will choose problems from a variety of sources, including my own imagination. It is likely that solutions for many of the assigned problems can be found on the internet or other sources. I know this, and now you do too. It is unacceptable for you to solve homework problems by “mining” for existing solutions. Nor is it acceptable to consult existing solutions for hints. Both of these constitute forms of plagiarism. Remember, the only way you will learn the subject is by sweating through problems on your own and/or with your study team.

• **Final comment:** Working physics problems is *by far* the best way to learn physics, so it is important that you make every effort to do an honest and thorough job.

**PHYS 6202/Honors Credit Project**

**Who:** Graduate students in this course are enrolled in PHYS 6202. Undergraduates in the Honors Program wishing to receive honors credit for this course must transfer into PHYS 6202. (See your undergraduate major advisor.)

**What:** Students enrolled in PHYS 6202 will have an additional term project. I will communicate the details of this term project at a later time in a separate document.

**Effect on grade:** Your preliminary semester letter grade will be determined as per the section “Grading Policy” above and then (possibly) adjusted based on your performance on the term project. The purpose of the term project is to warrant graduate (or honors) credit for this course, distinguishing it from 4202. It is *not* designed to give 6202 students an opportunity for extra credit (or extra penalty) that the 4202 students don’t have. Therefore, in most cases a satisfactorily completed term project will not change your final letter grade from the preliminary letter grade. However, a truly outstanding term project will be rewarded with a one-step increase in your letter grade (*e.g.*, B becomes B+, B+ becomes A−, etc.).
A becomes A with a special gift from me). Similarly, a very poor term project will be penalized with a one-step decrease in your letter grade (e.g., A− becomes B+, B+ becomes B, etc.). Finally, if you fail to submit the term project by the deadline, then your final grade will be two steps lower than your preliminary grade (e.g., A− becomes B, B+ becomes B−, etc.) Specification of what “truly outstanding”, “very poor”, and “deadline” mean for this term project will be addressed in the document describing the term project.

**Academic Honesty**

The University of Georgia has a comprehensive policy on academic honesty known as *A Culture of Honesty*. This policy not only describes required and prohibited conduct, as pertains to academic honesty, but also provides a detailed procedure for resolving matters of alleged academic dishonesty, including a description of consequences for honesty violations. The complete policy can be found online at http://honesty.uga.edu/. All students are responsible for knowing, understanding, and abiding by this policy. If you have any questions about the appropriateness of your work in this course, you are obligated to ask me for clarification.

I take issues of academic honesty very seriously, and it is my responsibility to uphold the University’s policy. This means, among other things, that I will not hesitate to report my suspicions of dishonesty (e.g., plagiarism, unauthorized assistance, etc.) to the Office of the Vice President for Instruction. This extends not only to exams but also to homework and (for PHYS 6202 students) term projects.