

Physics 7310

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Class meets MWF 1:25 to 2:15 in Duane G-125

Office hours – Wednesday –3:30-4 (between quantum and the colloquium) and Thursday –1 to 5, plus when you can find me – NOT right before class or Friday morning, please!

I'll use the regular class web page

- <http://www-hep.colorado.edu/~degrand/p7310.html>

to get information out to you. I'll use Canvas as little as possible. "Secret" things will go there, if necessary. Everything public will be mirrored on the regular web page.

Grade:

- homework 250
- midterm 100
- final 150
- total 500 points

The midterm will be in the evening, 1 1/2 hours long, in mid October. We'll figure out a date later. The final exam is Tuesday 19 December, 430-7 PM in our classroom.

Homework will typically be given out on Wednesdays, due Friday of the next week. The questions will be posted on the class web page. The grader will probably be marking papers over the weekend and I will want to post solutions at some reasonable time after the Friday deadline, so keep to a schedule and negotiate with me IN ADVANCE if you feel you have to turn in something late. Homework solutions will be scanned onto the course web page.

The grader is Andrew Osborne `Andrew.osborne-1@colorado.edu`.

Text: Jackson, "Classical electrodynamics." I will not follow Jackson's order of topics when I think I can do better. I hope to end the first semester with cavities and wave guides.

Books I like, and will try to put on reserve in the Engineering-Math-Physics library include

- Zangwill, "Modern Electrodynamics." A new book, almost orthogonal in its approach to the more traditional Jackson. Check it out; there is some amazing stuff in there.

- Landau and Lifshitz, “Classical theory of fields”
- Landau and Lifshitz, “Electrodynamics of continuous media” Typical Landau and Lifshitz, terse and complete. The division into two books is a bit awkward.
- Panofsky and Phillips – An old book. It was a pre-Jackson standard text, for its generation

Another very interesting book is Thorne and Blanford, “Modern Classical Physics.”

A big part of this class is finding an appropriate mathematical structure to solve your problem. I own a number of old mathematical methods of physics books – Morse and Feshbach, Matthews and Walker are two. The undergraduate text by Boas is occasionally useful. If you can find an Abramowitz and Stegun in a used book store, pick it up. Stone and Goldbart is slightly too highbrow for me, but maybe not for you. Of course, I am like you: I often start with Wikipedia. Another on line resource is the NIST digital library of mathematical functions <http://dlmf.nist.gov/> . You need an integral table. I don’t own the king, Gradshteyn and Ryzhik. I found Peirce, “A short table of integrals” on line several places and was able to print the one on openlibrary.org. It has everything you would need for a test.

Maybe this is too old fashioned, but I find that when I am looking something up, a book is nicer than a web page because usually the expression I really want is on the page next to the one with the expression I think I want.

Finally, if you qualify for accommodations because of a disability, see me as soon as possible but before the second week of class.

Here is a long version of the syllabus with all kinds of required statements, which can be found in a link on the class web page.

All this in on the URL (can’t get it on one line, sorry!

<https://www.colorado.edu/academicaffairs/policies-customs-guidelines/required-syllabus-statements>

CLASSROOM BEHAVIOR

Students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote, or online. Failure to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation, or political philosophy.

For more information, see the classroom behavior policy, the Student Code of Conduct, and the Office of Institutional Equity and Compliance.

REQUIREMENTS FOR INFECTIOUS DISEASES

Members of the CU Boulder community and visitors to campus must follow university, department, and building health and safety requirements and all public health orders to reduce the risk of spreading infectious diseases. The

CU Boulder campus is currently mask optional. However, if masks are again required in classrooms, students who fail to adhere to masking requirements will be asked to leave class. Students who do not leave class when asked or who refuse to comply with these requirements will be referred to Student Conduct & Conflict Resolution. Students who require accommodation because a disability prevents them from fulfilling safety measures related to infectious disease will be asked to follow the steps in the Accommodation for Disabilities statement on this syllabus.

For those who feel ill and think you might have COVID-19 or if you have tested positive for COVID-19, please stay home and follow the further guidance of the Public Health Office. For those who have been in close contact with someone who has COVID-19 but do not have any symptoms and have not tested positive for COVID-19, you do not need to stay home.

Accommodation for Disabilities, Temporary Medical Conditions, and Medical Isolation

Disability Services determines accommodations based on documented disabilities in the academic environment. If you qualify for accommodations because of a disability, submit your accommodation letter from Disability Services to your faculty member in a timely manner so your needs can be addressed. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition or required medical isolation for which you require accommodation, (Faculty: insert your procedure here for students to alert you about absence due to illness, injury, or medical isolation. Because of FERPA student privacy laws, do not require students to state the nature of their illness when alerting you. Do not require "doctor's notes" for classes missed due to illness; campus health services no longer provide "doctor's notes" or appointment verifications. – just send me an email, no big deal–T.D.) Also see Temporary Medical Conditions on the Disability Services website.

PREFERRED STUDENT NAMES AND PRONOUNS

CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class roster is the student's legal name.

HONOR CODE

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the Honor Code may include but are not limited to: plagiarism (including use of paper writing services or technology [such as essay bots]), cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to Student Conduct & Conflict Resolution: honor@colorado.edu, 303-492-5550. Students found responsible for

violating the Honor Code will be assigned resolution outcomes from the Student Conduct & Conflict Resolution as well as be subject to academic sanctions from the faculty member. Visit Honor Code for more information on the academic integrity policy.

SEXUAL MISCONDUCT, DISCRIMINATION, HARASSMENT AND/OR RELATED RETALIATION

CU Boulder is committed to fostering an inclusive and welcoming learning, working, and living environment. University policy prohibits protected-class discrimination and harassment, sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, and related retaliation by or against members of our community on- and off-campus. These behaviors harm individuals and our community. The Office of Institutional Equity and Compliance (OIEC) addresses these concerns, and individuals who believe they have been subjected to misconduct can contact OIEC at 303-492-2127 or email cureportcolorado.edu. Information about university policies, reporting options, and support resources can be found on the OIEC website. Please know that faculty and graduate instructors have a responsibility to inform OIEC when they are made aware of incidents related to these policies regardless of when or where something occurred. This is to ensure that individuals impacted receive an outreach from OIEC about their options for addressing a concern and the support resources available. To learn more about reporting and support resources for a variety of issues, visit [Dont Ignore It](#).

RELIGIOUS HOLIDAYS

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, Faculty: insert your procedures here –no big deal, talk to me–T.D.. See the campus policy regarding religious observances for full details.

MENTAL HEALTH AND WELLNESS FACULTY: THE FOLLOWING IS A RECOMMENDED SYLLABUS STATEMENT BUT NOT REQUIRED.

The University of Colorado Boulder is committed to the well-being of all students. If you are struggling with personal stressors, mental health or substance use concerns that are impacting academic or daily life, please contact Counseling and Psychiatric Services (CAPS) located in C4C or call (303) 492-2277, 24/7.

Free and unlimited telehealth is also available through Academic Live Care. The Academic Live Care site also provides information about additional wellness services on campus that are available to students.