Physics 5260

T. DeGrand – email thomas.degrand@colorado.edu
My office is Gamow Tower F-319.
Lectures are 2:30-3:20 MWF (for sure) in G-125 (I hope). Office hours will be Wednesday 11-12 and 1-1:30, and Thursday 2-4, and when you find me (not the hour before class, please). I respond pretty quickly to emails during the day, less quickly in evenings and on weekends.
I’ll use the regular class web page

• http://www-hep.colorado.edu/~degrand/p5260.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.

Once again we are driven onto Zoom for the first two weeks. Please note that I am unhappier than you are about this (no matter how unhappy you are). But – (insert quote from Camus, “The Plague.”)

While we are forbidden to meet I will do Zoom lectures at the regular class time and hold Zoom office hours, also at the times shown above. I’ll put the Zoom address (it will be a recurring meeting in Zoom parlance) on the Canvas page. While we are apart I will record lectures “to the cloud” and put the URL’s on the canvas page. I plan to do some of this from my office on campus (home internet being what it is) so I hope I will be around for questions.

Let’s hope for the best, soon.

Grade:

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

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 Sankalp Gaur sankalp.gaur@colorado.edu

If we have a real class (i.e. in person) at the times for the exams, the exams will be in person – a 1 1/2 hour long midterm some time in early March (precise time to be negotiated). The final exam is scheduled for Sunday May 1, 1:30-4.
If we are forced into another ersatz semester the exams will be take home over several days. Can we not think about this until we know more?

My notes are on the web page and are on Canvas. They will be updated as needed. (Check the date on the first page.) Tell me about typos – I will fix them. The optional text is Sakurai and Napolitano, “Modern Quantum Mechanics.” I will try to use Sakurai’s notations and conventions. Books I regularly refer to (all have titles like “Quantum Mechanics”) include

- Schiff
- Baym
- Landau and Lifshitz
- Bethe and Jackiw, Intermediate Quantum Mechanics – this is a quite useful and detailed place to read about radiative transitions and scattering
- Gasiorowicz – an undergrad text, but not low level. Try to find the 1974 edition, which is better than the later ones

The second semester is mostly about approximations: time independent and time dependent perturbation theory, the Golden Rule, the interaction of radiation and matter, scattering theory, hopefully a bit of quantum field theory (the quantum mechanics of systems whose classical equivalent is a wave system).

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

All the stuff I am ordered to include:

Classroom Behavior

Both students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote or online. Those who fail 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 policies on classroom behavior and the Student Conduct & Conflict Resolution policies.

Requirements for COVID-19

As a matter of public health and safety, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements and all public health orders in place to reduce the risk of spreading infectious disease. Students who fail to adhere to these requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to Student Conduct and Conflict Resolution. For more information, see the policy on classroom behavior and the Student Code of Conduct. If you require accommodation because a disability prevents you from fulfilling these safety measures, please follow the steps in the Accommodation for Disabilities statement on this
syllabus. CU Boulder currently requires masks in classrooms and laboratories regardless of vaccination status. This requirement is a precaution to supplement CU Boulder’s COVID-19 vaccine requirement. Exemptions include individuals who cannot medically tolerate a face covering, as well as those who are hearing-impaired or otherwise disabled or who are communicating with someone who is hearing-impaired or otherwise disabled and where the ability to see the mouth is essential to communication. If you qualify for a mask-related accommodation, please follow the steps in the Accommodation for Disabilities statement on this syllabus. In addition, vaccinated instructional faculty who are engaged in an indoor instructional activity and are separated by at least 6 feet from the nearest person are exempt from wearing masks if they so choose.

If you feel ill and think you might have COVID-19, if you have tested positive for COVID-19, or if you are unvaccinated or partially vaccinated and have been in close contact with someone who has COVID-19, you should stay home and follow the further guidance of the Public Health Office (contacttracing@colorado.edu). If you are fully vaccinated and have been in close contact with someone who has COVID-19, you do not need to stay home; rather, you should self-monitor for symptoms and follow the further guidance of the Public Health Office (contacttracing@colorado.edu). Faculty: insert your procedure here for students to alert you about absence due to illness or quarantine. 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.

Accommodation for Disabilities

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability Services website. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition, 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 academic integrity policy. Violations of the Honor Code may include, but are not limited to: plagiarism, 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 the Honor Code (honor@colorado.edu; 303-492-5550). Students found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found on the Honor Code website.

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation

CU Boulder is committed to fostering an inclusive and welcoming learning, working, and living environment. The university will not tolerate acts of sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, or protected-class discrimination or harassment by or against members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or email cureport@colorado.edu. Information about university policies, reporting options, and the 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 of sexual misconduct, dating and domestic violence, stalking, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about their rights, support resources, and reporting options. To learn more about reporting and support options for a variety of concerns, visit Don’t 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, let me know, we’ll figure something out.