

## Phys 3316 Student Course Information

### Course Registration:

*All registration issues* (add/drop, section assignments, etc.) are handled through the Physics Department office. **Do not contact the course staff about registration issues, as we have no control over the section assignments.**

Contact- Danyel Wierson, 121 Clark Hall, (607) 255-7563 ([dw442@cornell.edu](mailto:dw442@cornell.edu)).

### Campuswire for questions:

The central hub for communications for the course is Campuswire (a more modern version of Piazza). The best part about Campuswire (unlike Piazza) is that, as you enter a question, it automatically searches for and displays related questions, getting you your answer easier and quicker!

We will use Campuswire for all important course announcements, and especially class discussion. The system is highly catered to getting you help fast and efficiently from classmates, the TA, and myself. Rather than emailing questions to the teaching staff, **we strongly encourage you to post your questions on Campuswire.** If you have any questions/difficulties, click on the blue chat circle on the lower right of their homepage [campuswire.com](http://campuswire.com).

*Signing up* — You should have received an invitation from Prof. Arias in August before the start of the semester. If you did not receive an invite (**be sure to double-check your spam folders!**) or added the class after the invitations were sent, leave a brief note *including your name and Cornell NetID* at our feedback page: [forms.gle/Qty1nxuZHGkf3NRnA8](https://forms.gle/Qty1nxuZHGkf3NRnA8) .

### Graduate Teaching Assistant:

There is one discussion section, Section 201 meeting on Thu at 3:45-4:35pm in Savage 200. (This section is **in real life** and not the hybrid model!) The leader for these discussion sections is the Graduate Teaching Assistant (GTA).

Contact- Naomi Gendler ([nq434@cornell.edu](mailto:nq434@cornell.edu))

### Grader:

The grader for the course is the same as the GRA

Contact- Naomi Gendler ([nq434@cornell.edu](mailto:nq434@cornell.edu))

### Lecturer:

For issues that cannot be addressed by the Physics Department (course registration issues), Campuswire (physics questions and general course issues), or your TA or grader, contact the lead professor for the course.

Contact- Prof. Tomás A. Arias (315) 294-0822 ([muchomas@ccmr.cornell.edu](mailto:muchomas@ccmr.cornell.edu))

*Include "3316" in the "Subject:" of all emails, otherwise they may not be answered!*

### Canvas for online information:

Canvas will be the central repository for all course materials (handouts, problem sets, grades, general class information, etc.).

**Textbooks:**

- *An Introduction to Quantum Physics*, by French and Taylor
- *Introduction to Quantum Mechanics, 3rd ed.*, by David Griffiths
- *Class Notes*, by Prof. Arias

**Office Hours/Class Study Hall**

Office hours will be held as classwide study halls. These study halls will be run by the course teaching staff. Attendance is voluntary, but you must have worked on the problem sets on your own before attending the study hall. The schedule will be posted on Canvas.

**Grades:**

The relative weighting of exams, problem sets, and exercises will be

- **Exams (67%) total**
  - Prelim I (20%) [Wed Oct 6]
  - Prelim II (20%) [Fri Nov 12]
  - Final exam (20%) [TBD Dec 11 - 18]
  - Extra weight assigned to whichever exam (prelim or final) has highest score (7%)
- **Assignments (30%) total**
  - Problem sets (24%) [lowest 2 dropped]
  - Pre-class exercises (3%) [lowest 2 dropped]
  - Lecture Q&A exercises (3%) [lowest 2 dropped]
- **Participation (3%) total**
  - Discussion Section participation (2%) [assigned by TA]
  - Campuswire participation (1%) [based on reputation system — you will not get credit if we determine you are gaming contributions to Campuswire...]
- **Bonus Problems (3%) total bonus on top of the usual course curve**

You can earn up to a 3% bonus on top of the class curve by completing Problem Set questions marked “Bonus”.

**Exams:**

Any *conflicts or special needs* must be communicated to Prof. Arias *at least two weeks prior* to the corresponding prelim or final. If you have any emergencies, you must contact Prof. Arias as soon as possible prior to any prelim or exam. Prelims will be in person during class hours, and the final will be also in person as a regularly scheduled final exam.

**Problem Sets:**

There will be eleven (11) problem sets due on the dates posted on the course calendar. The problem sets will be available on Canvas the week prior to their due date. The problem sets *must* be returned on paper at the start of lecture (9:05am sharp) on the due date. **Late problem sets absolutely will not be accepted and will receive a grade of zero.** To mitigate unfortunate circumstances, *the lowest two (2) of your problem set scores will be dropped in forming your problem set average.* **A portion of your problem set grade will be based on the presentation and completeness of your work.**

Discussion and collaboration on the problem sets is encouraged, but you must first attempt to solve as much as you can by yourself. **Step-by-step solutions or final answers are not to be posted or copied from Campuswire, although conceptual questions are welcome.** We have set up a “study hall” for students to gather to work on problems on which they have gotten

stuck or could not solve themselves. However, you must have worked on the problems on your own before coming to the study hall. The ability to solve the problem sets **on your own** is the “gold standard” against which to assess your true understanding of the material. **If you do discuss your work with other students, please write the names of the other group members on your problem set.** Simply copying your classmates’ problem sets will be self-defeating, as you will not have learned the material well enough to perform well on the prelims and exams, which are worth a much larger fraction of your grade.

**Exercises:**

Finally, to enhance your learning and to provide training in solving quantum mechanics questions, we will be including other types of exercises beyond problem sets. Approximately once per week, lectures will be delivered to you at home via YouTube, followed by a short set of pre-class exercises to be completed the night before lecture. Lecture the following day will then consist of discussion of the week’s material, and question and answer (Q&A) with the professor. These two components of the course will be worth 3% each, for a total of 6%.

**Participation:**

The Discussion Section will include interactive exercises and discussions, graded for participation (2%). Finally, to encourage active online participation, 1% will be awarded for active participation (asking or answering valued questions) on Campuswire. This 1% will be based on your Reputation Score. Staff will monitor Campuswire and upvote good questions and answers to further increase your Reputation Scores.

**Bonus:**

Some, more lengthy parts of problem set problems will be marked “Bonus”. After the usual class curve is computed, you can earn additional bonus points in proportion to the number of these you complete correctly, up to a maximum of 3% (corresponding nearly to a grade division, the difference between B+ and A- or A- and A). All students are encouraged to attempt these problems as part of the learning process, but they are not part of the formal 100% making up your expected course work — they instead represent a true bonus to improve your grade.

**Partial Credit:**

Partial credit, particularly on exams, will be awarded generously only in those cases involving minor algebraic errors. Incomplete physical reasoning or simply writing down formulas without physical justification will not result in credit for the problem in question.

Great pains will be taken to implement a system with uniform grading; therefore, **awards of partial credit will not be adjusted on an individual basis**, as it would be unfair to the rest of the class to adjust the credit of one student without adjusting that of the entire class. Granting partial credit to the entire class uniformly assures that the system is fair.

**Grading Corrections:**

You are strongly encouraged to bring to our attention cases where graders have misgraded, including simple mistakes, not noticing information which you provided in your solution, and not giving credit for valid alternate solutions. To resolve these matters, you must write a brief explanation of the grading error and return this note to the TA during the same Discussion Section in which you receive your returned exam.

Written explanations such as “The grader didn't see the rest of the solution on the top of the next page,” or “I believe my alternate solution to 3(b) wasn't graded properly because ...” will suffice, but more information may be provided if you feel it helps your case. If it is a case of an alternate solution please be sure to write “alternate solution” explicitly.

**Academic Integrity:**

Each student in this course is expected to abide by the Cornell Code of Academic Integrity. “Any work submitted by a student in this course for academic credit will be the student's own work.” This includes exams, problem sets and other homework. The only exceptions are any cooperative work which we may assign, which must represent the work of the group *with full involvement of all assigned members*. We will impose the highest penalties permitted for violation of this policy. For further details see: [Academic Integrity at Cornell | Dean of Faculty](#) .

**Good luck!!!**

The material you will learn represents our most fundamental understanding of how the universe works. With the knowledge you will gain, you will be able, in principle, to make highly accurate predictions of the behavior of matter, even for materials that have not yet been made in the laboratory. This is actually the subject matter that convinced Prof. Arias he had made the right decision to dedicate his life to the study of physics!