PHYS 2211 FAQ

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For Students

Contacting Instructors

- How should I ask questions about the physics concepts we're learning?

  You can ask physics questions in lab meetings, on EdStem, or in office hours.

- How should I ask questions about homework assignments?

  You can ask homework questions on EdStem or in office hours. Your lab TA might also be able to help with this, but they are not asked to review the homeworks.

- How should I ask questions about lab experiments?

  You can ask lab experiment questions of your TA following GPS, or on EdStem.

- How should I ask questions about grades?

  Generally speaking, grade questions are best directed to the Head TA or the Course Coordinator.

- How should I contact my TA/the Head TA/my professor/the Course Coordinator?

  All the instructional staff are available via email. The Head TA and the Course Coordinator are the primary instructors responsible for monitoring EdStem. If you are contacting an instructor via email, I recommend putting the course code ("PHYS 2211") in the subject line so that the instructor recognizes it's a student email (this is a useful tip you can use for your other classes too!).

- Where can I find contact info for the professors/TAs?

  The contact info and office hours times for the professors and the Head TA are on the course homepage on Canvas. At the bottom of the homepage, there is a spreadsheet that has the schedule and contact info for the lab TAs.

Course Policies

- What is the attendance policy for this class?

  Lectures are synchronous – you should attend lecture, and you can earn bucket points by answering clicker questions during the lecture. (Note that these are section-locked, meaning you can only get clicker credit by attending the lectures for the section you've registered for.) Lab meetings are synchronous and have mandatory attendance since your GPS grade is based on attendance/participation. Tests are synchronous and have mandatory attendance.

- I have an upcoming schedule conflict with my lab meeting or a test. What can I do? Is there any way I can make up this work?

  You should request an excused absence. **All excused absences must be approved by the Course Coordinator.** Generally speaking, we don't offer make-up GPS or tests since this can cause logistical difficulties, especially in larger classes; however, the Course Coordinator may provide additional information regarding what options (if any) exist for make-ups. For lab meetings/GPS, these are excused and won't count towards your GPS grade. For tests, we do a final exam replacement, where your score on the final is used in place of the missing test grade. This has shown to be the most beneficial option for students. If you feel like this policy is not in line with your needs, please contact the Course Coordinator.

- What if I have an unexpected emergency, like waking up sick the morning of lab or a test?

  Please contact the Course Coordinator as soon as possible so that they can best assist you. In the past, we have looked into students attending lab virtually using cameras in the lab rooms. This may be a possibility depending on your circumstances.

- How do I request an excused absence?

  There is a link in the syllabus to excused absence forms recommended by the institute. There is a category for "Institute-Approved Activities" and one for "Personal Emergencies". If you feel like your circumstances do not fit clearly into one of these categories, please contact the Course Coordinator with the details of your situation, and they will help you from there.

- What can I do about deadline extensions for assignments related to excused absences?

  Students can also request to have a deadline extension (typically for lab reports) with the excused absence. **All extensions must be approved by the Course Coordinator.** The time frame for the extension should be determined between the student and the Course Coordinator and/or Head TA.

- Is there a dress code policy for this class?

  No, there is no formal dress code policy.

Materials/Software/Platforms

- Is there a required textbook for this class?

  This course closely follows *Matter & Interactions*, Vol I: Modern Mechanics, 4th edition, by R. Chabay and B. Sherwood. This textbook is not required, but may be used as an additional resource if students choose. The 3rd edition is also recent enough to be used as an additional resource instead of the 4th edition.

- What software/platforms are used in this course?

  There are a handful of different softwares/platforms used in this course:

  - Canvas is the primary platform for the course. This is where you can find all the documents/materials/resources you will need, and it is where all assignments are due unless otherwise specified.
  - Ed Discussion/EdStem is where the class forum is located. This is where students can ask questions about physics concepts, homework assignments, labs, course policies, etc. Instructors will also make announcements here.
  - WeBWorK is the platform we use for homework assignments.
  - Gradescope is the platform we use for grading tests.
    - Students will also need an app that they can use to scan their test into a PDF to be uploaded to Gradescope. We recommend Office Lens, which can be synced to the Office 365 and OneDrive associated with a student's Georgia Tech account.
  - The lab experiments use a variety of different softwares/platforms:
    - Glowscript, which is a free website that allows students to run VPython code.
    - Tracker, which is a program that students can use to extract position/velocity/time data from a video. You can download the software for Tracker, or you can use the browser version.
    - PowerPoint/Google Slides for making presentation slides.
    - a screen recorder to record a video of the presentation. Some students choose to record a Zoom or Teams meeting for this.
    - YouTube, which is where many students upload the video so that they can submit a link instead. In the past, some students have uploaded their video report to Google Drive or a similar platform.
  - PointSolutions (formerly "TurningPoint") is used for clicker questions during lectures.
  - Perusall is used for the weekly previews.

Assignments/Grades

- What are the assignments in this class?

  There are:

  - Lab meetings (in the CULC physics lab rooms) where students will complete GPS
  - Lab experiments that students will complete, and then create a video report discussing the experiment and their findings
  - Peer reviewing other students' video reports
  - Three midterm tests and a final exam
  - Bucket point assignments, including:
    - Homework assignments and extra problems
    - Clicker points during lectures
    - Weekly previews
    - Test wrappers
    - Student-created wiki resources
    - Public lecture reviews

  There are also opportunities for extra credit points with the pre- and post-tests.

- How do these assignments factor into my total grade?

  This varies slightly depending on the Course Coordinator, but assignments are generally worth the following:

  - GPS - 10 points
  - Lab experiments - 15 points (this includes the peer evaluation score and peer evaluation participation points)
  - Tests - 40 points (weighted as 5/15/20 points for the lowest/middle/highest grade)
  - Final exam - 25 points
  - Bucket points - 10 points (maximum, out of 19)
    - Homework assignments - 5 points
    - Clickers/class participation - 5 points
    - Weekly previews - 5 points
    - Extra problems - 1 point
    - Test wrappers - 1 point
    - Wiki resource - 1 point
    - Public lecture review - 1 point
  - Extra credit - up to 1 point
    - Pre-test - 0.5 points (based on completion)
    - Post-test - up to 0.5 points (based on correctness)

  Students can accurately calculate their grade using the "WhatsMyGrade" spreadsheet linked in the syllabus.

- What are the grade cutoffs?

  The grade cutoffs are:

  - A: 90+ points
  - B: 80-89 points
  - C: 70-79 points
  - D: 60-69 points
  - F: 0-59 points

- How often do students fail this course?

  There are typically a few students who fail this course every semester. Based on data from previous semesters, this is typically up to about 2% of the class.

- Is the final grade I see in Canvas accurate?

  This grade is *reasonably* accurate, but it's not exact. Canvas doesn't process some of the more complex weighting schemes that this class uses (for example, the tests being weighted based on their relative scores, and the pre- and post-tests contributing to extra credit differently). You should use the "WhatsMyGrade" spreadsheet linked in the syllabus to get an accurate score.

- Are final grades curved?

  No, final grades are not curved. Once each test has been graded, the Course Coordinator and Head TA will determine if the grades for that test should be curved.

- Are final grades rounded?

  Not necessarily. Any rounding of final grades is done at the discretion of the Course Coordinator in conjunction with all of the instructors.

Lab Meetings/GPS

- Are there lab meetings every week?

  Labs will meet most weeks, except during Week 1 and during any week where an institute holiday or break would interrupt lab meetings. This includes (but is not limited to) events like:

  - Fall semester: Labor Day, Fall Break, Thanksgiving
  - Spring semester: Martin Luther King Day, Spring Break
  - Summer semester: Juneteenth, Fourth of July

  To emphasize, labs are cancelled *only* if one of the above events disrupts lab meetings for the week. If the event does not conflict with any lab meetings, then they will proceed as normal.

- Are there still lab meetings the during test weeks?

  Yes, subject to the rule above.

- How long do lab meetings last?

  Lab meetings are scheduled to last for up to 3 hours, but they often won't take this long. You are expected to stay until your group is finished, which is typically expected to take about 2 hours.

- What does GPS stand for?

  GPS stands for "Group Problem Solving".

- What do I do during lab meetings?

  Students work together in groups on a packet of physics problems that cover the concepts they're learning in class. These problems typically cover concepts from the previous week's lectures.

- How do I get a grade for GPS?

  The GPS grade is based on attendance and participation. If you are present, actively working and making progress with your group, contributing to discussions, etc., then you should earn full credit.

- Do I need to submit anything for GPS?

  No, your TA will put in grades manually.

- Are solutions to the GPS problems available?

  Video solutions to the GPS problems will be published at the end of each week. These are published in the corresponding week's Module on Canvas.

Lab Experiments

- How do lab experiments work?

  Detailed instructions for each lab experiment are accessible through the assignment or in Modules on Canvas. Here are rough instructions for the lab experiments:

  1. Students will be given instructions to perform a small experiment that they will take a video of.
  2. They then upload this video to Tracker to extract data from it.
  3. Students will also create a computational model of the system in Glowscript that they can compare their data to.
  4. Students create a presentation discussing the experiment, the model, and their findings; they then record themselves going through the presentation.
  5. Often, students will upload their video to YouTube and submit the link, but students can also submit the video file itself. **We recommend submitting a link since this tends to have fewer processing issues.**

- What if I've never coded before?

  Students are given starter codes to work with, so they won't have to create anything from scratch. There are also some coding tips/instructions in the "Getting Started" module in Canvas.

- Do all lab experiments have a data component and a computational component?

  All of them except Lab 3, which deals with black holes and gravity. It's also rare (but possible) that students can do a fully experimental or fully computational lab for Lab 5, though they will need to get permission from the Course Coordinator to do this. It's recommended that students have both an experimental and computational component to Lab 5.

- How are lab reports graded?

  Lab reports are peer reviewed. This is the only feasible way to grade them all due to the size of the class. If your lab is submitted on time, it will be assigned to four other students, and you will be assigned four lab reports to peer review.

Peer Reviews

- How do peer reviews work?

  Students will access the submissions they've been assigned and will be provided with a rubric that they use to grade each lab report. A few notes on filling out the rubric:

  - Students must fill out the rubric by clicking on the rubric items in each row. **Just leaving comments or attaching a completed rubric will not count towards completing the peer review.**
  - Students should not give partial credit for any of the rubric items. This shouldn't happen if students are following the first point, but I want to make this clear just in case.
  - Students are *not* required to leave comments, but may do so to explain why points were deducted, provide constructive criticism, or praise exceptional work.
  - **Do NOT close the rubric until it is fully completed and submitted, as closed or incomplete rubrics cannot be edited, even by the instructors.** I recommend having a Canvas tab open with the rubric, and a Canvas/YouTube tab open with the video.

- What do I do if I can't see the peers I've been assigned to review?

  Peer review assignments don't appear in the Canvas app, so you'll have to use the browser version of Canvas. If you submitted your lab before the deadline when peer reviews were assigned and you can't find them in the browser version, please contact the Head TA or the Course Coordinator.

- How do I view the video?

  If they submitted the video file, the video should appear in Canvas (you may have to click on it). If they submitted a link, follow the link to their video.

- What do I do if it says "media processing, please try again later"?

  Wait a bit longer to see if it finishes processing. If you're approaching the deadline and you still see this message, mark all the rubric items as "Zero credit: video cannot be opened". They will need to sort this out with a regrade from their TA later.

- What do I do if I can't view the YouTube video because it's been set to "private"?

  Mark all the rubric items as "Zero credit: video cannot be opened". The will need to sort this out with a regrade from their TA later.

- What do I do if a rubric item doesn't seem to apply for a lab? For example, if the rubric item asks about comparing the experimental data and the computational model, but the lab was fully computational?

  Generally speaking, something like that should be marked as full credit. If you are unsure, you can ask for confirmation on EdStem.

- How is my lab score calculated from the peer review scores?

  Typically, we drop the lowest score and take the average of the remaining three. **Please double check the syllabus, as this policy may vary based on the Course Coordinator.**

- Do I get a score for doing peer reviews?

  Yes, you receive peer participation points for completing peer reviews. This is worth half of the grade you receive for lab experiments.

- I made a mistake filling out the rubric for one of my peer reviews. What should I do?

  You should still be able to make changes if you haven't saved the rubric yet. Otherwise, please contact the Course Coordinator or the Head TA with your name and the name of the student being peer reviewed so they can reset the rubric for you.

Bucket Points

Homeworks

- How are homeworks weighted since the homeworks have different numbers of questions for different weeks?

  Each week is weighted equally, meaning that a 16/20 and a 40/50 (both 80%) contribute equally to the final homework grade.

- Why won't WeBWorK accept my numeric answer?

  WeBWorK can sometimes be finicky with decimal precision. My usual rule of thumb is to round to two decimal places, but some WeBWorK questions may require more.

- Why won't WeBWorK accept my symbolic answer?

  There are two common reasons for this. The first is that your answer contains a variable it shouldn't (for example, if m is a given constant, but the answer doesn't depend on m). Note that if the answer is a vector, this is considered for all the components individually. The second reason is that something in your answer hasn't been formatted correctly. Here are some common notations and how to format them in WeBWorK:

  - Subscripts: "m_1" $\rightarrow m_1$, "r_b" $\rightarrow r_b$
  - Superscripts: "m^2" $\rightarrow m^2$
  - Fractional powers: "r^(3/2)" $\rightarrow r^{3/2}$
  - Subscripts and superscripts: "(v_i)^2" $\rightarrow (v_i)^2$
  - Greek letters: "theta" $\rightarrow \theta$, "omega" $\rightarrow \omega$, "Omega" $\rightarrow \Omega$
  - Trig functions: "sin(theta)" $\rightarrow \sin(\theta)$, "cos(theta)" $\rightarrow \cos(\theta)$
  - Square roots: "sqrt(2x)" $\rightarrow \sqrt{2x}$

  Please note that WeBWorK is case sensitive; that is, WeBWorK considers "r" (r) and "R" (R) as two different quantities.

- WeBWorK keeps saying my answer is incorrect, but I've checked it multiple times. What should I do?

  Remember that you have to hit the "Submit Answers" button for it to update; just hitting the "Enter" key won't do this. If you're still having trouble, please contact the Head TA or the Course Coordinator on EdStem so they can investigate the issue.

Class Participation

- How do I earn bucket points for attending class?

  Students can earn attendance credit for bucket points by answer clicker questions during lectures. Students will need to use the free PointSolutions (formerly "TurningPoint") app. Note that clickers are section-locked, meaning students can only earn clicker credit by attending the lecture they've registered for.

- Do I only get credit if I get the question correct?

  No, students are awarded credit for answering the question, even if their answer is incorrect.

- Do I have to answer all the clicker questions to get full credit?

  No. To get full credit for a given lecture, students must answer at least 50% of the clicker questions in that lecture.

- Where are the lecture slides posted?

  Lecture slides and/or notes for each lecture section are posted in Files on Canvas in a folder named "Instructor Notes" (or something similar).

Weekly Previews

- What are the weekly preview assignments?

  Weekly previews are an opportunity for students to get introduced to the material in the upcoming week's lectures. Students can watch pre-lecture videos, read articles, and discuss the content with other students.

- How can I earn credit for the weekly preview assignments?

  Here is how students can earn credit for the weekly previews:

  - Comment content (40%): the content of the comments students post, automatically scored by Perusall's quality algorithm.
  - Reading to the end (40%): reading through the entire document.
  - Opening the assignment (25%): breaking up work on the assignment into multiple sittings.
  - Active engagement time (25%): time spent actively engaging with the assignment.
  - Getting responses (20%): writing comments that elicit responses from other students.
  - Upvoting (20%): writing comments that get upvoted by other students, and upvoting other students' comments.

  Notice how there are multiple ways in which students can earn 100% on the weekly preview assignments.

Miscellaneous Bucket Points

- What are the extra problems?

  The extra problems are an additional assignment in WeBWorK that students can use for extra practice/review. Please see Homeworks for details on homework assignments.

- What are test wrappers?

  Test wrappers are an opportunity for students to reflect on how they performed on the test and how they prepared for it. This includes what materials/methods/resources the student used to prepare, how much time they devoted to each, and what kinds of mistakes they made on the test.

- What is the wiki resource?

  The wiki resource is a student-sourced "textbook" that provides a wealth of information about the physics content covered in this course. Students can earn a bucket point by significantly contributing to one of the topics in the wiki, or by adding an additional relevant topic. **This assignment has strict rules regarding copyright infringement and academic misconduct.**

- What are the public lecture reviews?

  Public lecture reviews are an assignment where students create a video discussing the approved public lecture they attended and what they learned.

- Can I be excused from bucket point assignments (e.g., if I miss a lecture due to an excused absence)?

  No, we do not excuse students from bucket points, and there are no opportunities to make up missed bucket points. Students have the ability to earn bucket points via another assignment.

- Do I have to earn bucket points in all categories?

  No, students can earn bucket points in any combination of assignments that they choose. Students are able to earn partial credit in most bucket point categories (the only exception being the wiki resource).

- Can I earn more than 10 bucket points?

  No, students can earn up to a maximum of 10 bucket points via whatever methods they choose. Any overflow bucket points are **not** counted as extra credit.

Tests

- When and where are tests held?

  Tests are held on Monday evenings at 6:30 p.m. Students should plan to arrive at least 10 minutes early so they can get instructions from the proctors and start on time. The location of the test will depend on which section you are in (your professor for lectures). Students with ODS accommodations are proctored separately. The final exam has a separate time and location; it is usually a "common exam" time.

- Do I need to bring anything specific to the test?

  You must bring a photo ID with you (student ID, driver's license, etc.).

- Am I allowed to bring food into the testing room?

  No, students should **not** bring food into the testing room. Students are strongly encouraged to eat prior to the testing period.

- Can I bring a calculator?

  Yes, it is recommended that students bring a calculator for numeric problems. Graphing calculators are acceptable, but "smart" calculators (phones, watches, etc.) are not allowed.

- What if I don't have a calculator?

  It's possible one of the proctors can loan you a calculator for the test. If you encounter a numeric problem without a calculator, make clear what numbers you are plugging in where, and leave a note for the graders that you can't simplify any further without a calculator.

- How long do I have to take the test?

  For each of the midterms, students are given 75 minutes (1 hour, 15 minutes). For the final, students are given 150 minutes (2 hours, 30 minutes).

- How many questions are on the test?

  Each of the midterm tests typically have 3-4 problems. The final exam typically has 5-7 problems.

- What do the test questions look like?

  The questions on the test are typically modeled after the kinds of questions you would see in GPS. They will often, but not always, be multi-part free response problems. Past tests can give you a good indicator of what test questions may look like. Occasionally, there will be multiple choice-style questions, but this is up to the discretion of the professor(s) who write the test problems.

- What do I do if I have testing accommodations?

  Students with ODS accommodations are proctored separately, either in the ODS testing center or in classrooms in Howey. The Course Coordinator will work with you to make sure your testing accommodations are addressed, whether that be extra time, breaks, snacks, etc.

- What resources are provided to help me study for the test?

  Students receive video solutions to all of the GPS problems. There are also tests/quizzes from previous semesters posted in Files on Canvas in a folder named "Study Aids" (or something similar). These may be grouped by semester and/or by topic. However, it is important to note that the content covered (and the order in which it has been taught) has evolved over the years, so the content on past tests may not correspond exactly with content on recent tests.

- How are tests submitted?

  Once you are done with the test (or once time has been called), you must scan your test into a PDF and upload it to Gradescope.

- What if I've never used Gradescope before?

  The Course Coordinator will usually make an ungraded practice test assignment in Gradescope prior to Test 1. Students can submit a mock test to get practice uploading a document and assigning pages.

- Is there anything special I have to do when submitting to Gradescope?

  Students **must** assign pages when submitting to indicate what page(s) contains the work for a given question. This is done to help streamline the grading process. Students can get practice with this by completing the ungraded practice test.

- Is there anything I have to do after I submit to Gradescope?

  Students must come to the front of the testing room and turn in the physical copy of their exam. Students must also sign out on the attendance sheet, and they must show photo ID if it hasn't already been checked.

- Do I sign out before the test or after the test?

  The proctors in the room will have you sign out either before or after the test. The proctors in each room will provide instructions for the sign-out process before the test begins.

- How are tests graded?

  Tests are graded on Gradescope by the lab TAs. We usually try to have test grades back by the end of the week.

- Are solutions to the tests posted?

  Yes, solutions to the tests are posted in Files on Canvas in a folder named "Test Solutions" (or something similar). Solutions are posted once grades are released on Gradescope.

Regrades

- What happens if I feel like my lab report was graded unfairly/incorrectly?

  Students may request lab regrades from their lab TA, which they should do in writing (i.e., via email). They may discuss the whether or not requesting a regrade is sensible before submitting the request. Lab regrades cannot be requested until the lab grades have been processed and posted to Canvas by the Course Coordinator. If the lab report was submitted late (and, therefore, graded by the student's lab TA), the regrade will go to the Head TA.

- How do lab regrades work?

  The Head TA will access your lab report and grade using the same rubric as the peer reviewers. The final score that they come to will overwrite the score from the peer reviewers.

- What happens if I feel like my test was graded unfairly/incorrectly?

  Students may request test regrades from the grader for that problem. This is done directly through Gradescope. Graders can review the request and determine if the grade should be changed. There is a one-day cooling-off period between when grades are released on Gradescope and when test regrades open. This is to ensure students have ample time to review their work, the rubric, and the solutions; they can also consult with their TA to discuss whether or not it is sensible to submit a regrade request.

- Can regrade requests bring my score down?

  Yes – although it does not happen often, regrades have the potential to bring down a student's grade if the grader finds additional deductions. This applies to both lab regrades and test regrades. Please be confident that requesting a regrade is to your benefit before doing so.

- What if I disagree with the regrade?

  Students who wish to refute regrades may request to have it regraded by the Course Coordinator. For lab regrades, this should be done via email. For test regrades, this is typically handled by the TAs after a student submits a follow-up request in Gradescope.

Extra Credit

- Does this course offer any opportunities for extra credit?

  Yes, students can earn extra credit with the pre- and post-tests.

- How much extra credit do I get for doing the pre- and post-tests?

  Students earn 0.5 points of extra credit for completing the pre-test, which is based on completion. Students can earn *up to* 0.5 points of extra credit for completing the post-test, which is based on accuracy.

- Are there any extra credit opportunities besides the pre- and post-tests?

  Generally, no, these are the only extra credit opportunities. **The availability of additional opportunities for extra credit varies by semester and is at the discretion of the Course Coordinator.**

Deadlines

- What are the deadlines for lab experiments?

  Lab experiment video reports are due roughly every two weeks in Canvas on Sundays at 11:59 p.m. You can upload either the video file itself, or a link to the video, but the latter is recommended. Please ensure that you allow enough time to process the upload, especially if you are uploading the video itself instead of a link.

- What happens if my lab report is submitted late?

  If a lab report is late, then the student's lab grade will be reported as 0 or missing in Canvas when the Course Coordinator processes lab grades. After lab grades are posted, the student can ask their lab TA to grade their lab report, which comes with a 50% late penalty unless the student had an approved extension. Because the student's lab was not peer graded, they are also unable to get peer participation points. **It is the student's responsibility to inform their lab TA that their lab was submitted past the peer review deadline, and whether or not this was because the student had an extension approved by the Course Coordinator.**

- What are the deadlines for peer reviews?

  Peer reviews are due the weeks following the video reports in Canvas on Sundays at 11:59 p.m.

- What are the deadlines for homeworks?

  Homeworks are due at the end of each week in WeBWorK on Sundays at 11:59 p.m.

- What happens if I complete the homework late?

  All homeworks have a one-week grace period, which means that there is no late penalty if the homework is completed within one week past the due date. Any homeworks submitted after the one-week grace period will not receive credit.

- What are the deadlines for the weekly previews?

  Weekly previews are due on Sundays at 11:59 p.m. at the *beginning* of each week.

- What are the deadlines for test wrappers?

  Test wrappers are due before the date of the next test.

- What is the deadline for lab regrades?

  There is no official deadline for lab regrades other than the hard deadline on the last day of classes (like the homeworks). It's recommended that students request a lab regrade within 1-2 weeks of receiving their score.

- What is the deadline for test regrades?

  Test regrades are due before the date of the next test.

PLUS Sessions

- What does PLUS stand for?

  PLUS stands for "Peer-Led Undergraduate Study".

- What are PLUS sessions?

  PLUS sessions are group study sessions that are led by a PLUS leader, who is an undergraduate that has previously taken and done well in the course. PLUS sessions are intended to supplement the office hours held by instructors, and are a more informal setting.

- Who is (are) the PLUS leader(s) for the class?

  Information about the PLUS leader(s) is listed on the course homepage.

- When and where are PLUS sessions?

  Times and locations for PLUS sessions are listed on the course homepage with the PLUS leader(s).

Summer Changes

When this course is offered over the summer, the following changes are made:

- The course is only 10 weeks long instead of 15.
- Lectures are asynchronous. Students are expected to watch pre-recorded lectures each week instead of attending a synchronous lecture.
- Students will also need Microsoft Teams, as this is where lab sections will meet for GPS and where tests will be proctored since the class is conducted remotely. Students will need to join a Team created by their TA.
- Although the GPS problems are typically a week behind the lectures, they may catch up to the lectures towards the end of the semester due to the accelerated schedule.
- For testing, students will be expected to have their camera on and microphone muted for the duration of the test, including uploading to Gradescope.
- There are only 4 lab experiments instead of 5.
- Bucket points are not offered during the summer, so students will not need to use Perusall. Homeworks are worth 5 points, and GPS is worth 15 points instead of 10.
- There are no PLUS sessions.

For TAs

Contacting Instructors

- How should I contact the other TAs/Head TA/Course Coordinator?

  The Head TA and Course Coordinator are both available via email or MS Teams. It is probably easiest to contact the other TAs via Teams.

- Where can I find contact info for the other TAs/Head TA/Course Coordinator?

  The contact info for the Head TA/Course Coordinator are on the course homepage on Canvas. The contact info for the other TAs is in the lab schedule spreadsheet at the bottom of the course homepage. You can also search for their name in Teams.

Course Policies

- What is the attendance policy for labs?

  Students are required to attend lab sections every week. Students should arrive on time (a few minutes late should go without penalty, unless it becomes a regular occurrence). Students are expected to stay until their entire group is done with GPS. If students are unable to attend lab that week, they should request an excused absence from the Course Coordinator. In some instances, students may be able to attend virtually via Teams or Zoom, though this will need to be approved by the Course Coordinator.

- What do I do if I can't run my lab section this week?

  It is your responsibility to find another TA who can cover your lab this week. You can then make this up to them by covering one of theirs or by taking some/all of their grading duties for a test.

- What do I do if I can't proctor one of the tests?

  Please contact the Course Coordinator early so they can look for a substitute proctor.

- What is FERPA?

  This is the Family Educational Rights and Privacy Act. It states that students should expect a certain level of confidentiality/privacy regarding their grades. A student's grades should not be shared with anyone other than said student unless required.

- Am I a mandatory reporter for instances of sexual misconduct?

  Yes, you are considered a mandatory reporter for anything covered under Title IX, including but not limited to stalking and sexual discrimination/misconduct/harassment/violence. Incidents should be reported to the Title IX Coordinator.

- Can I date any of my students?

  NO! This is a conflict of interest since a romantic/amorous relationship with a student could be used to influence your academic relationship (or vice versa).

- What happens if any of my students asks me out?

  SAY NO! See point above.

- What happens if I have a preexisting conflict of interest with a student in the class (e.g., already in a relationship with a student)?

  Please contact the Course Coordinator immediately so they can work with you to minimize or eliminate the conflict of interest.

Materials/Software/Platforms

- Is there a required textbook for this class?

  This course closely follows *Matter & Interactions*, Vol I: Modern Mechanics, 4th edition, by R. Chabay and B. Sherwood. This textbook is not required, but students may choose to use this as an additional resource.

- What software/platforms do the students use in this course?

  There are a handful of different softwares/platforms used in this course:

  - Canvas is the primary platform for the course. This is where you can find all the documents/materials/resources you will need, and it is where all assignments are due unless otherwise specified.
  - Ed/EdStem is where the class forum is located. This is where students can ask questions about physics concepts, homework assignments, labs, course policies, etc. Instructors will also make announcements here.
  - Microsoft Teams is the primary location where the instructional staff will meet and communicate. You will be added to the appropriate channels in the "Physics GTAs & UTAs" Team.
  - WeBWorK is the platform we use for homework assignments.
  - Gradescope is the platform we use for grading tests.
    - Students will also need an app that they can use to scan their test into a PDF to be uploaded to Gradescope. We recommend Office Lens, which can be synced to the Office 365 and OneDrive associated with a student's Georgia Tech account.
  - The lab experiments use a variety of different softwares/platforms:
    - Glowscript, which is a free website that allows students to run VPython code.
    - Tracker, which is a program that students can use to extract position/velocity/time data from a video. Students can download the software for Tracker, or they can use the browser version.
    - PowerPoint/Google Slides for making presentation slides.
    - a screen recorder to record a video of the presentation. Some students choose to record a Zoom or Teams meeting for this.
    - YouTube, which is where many students upload the video so that they can submit a link instead. In the past, some students have uploaded their video report to Google Drive or a similar platform.
  - Perusall is used for the weekly previews.

Responsibilities

- What are my responsibilities as a TA for this class?

  TAs are responsible for the following:

  - Attending weekly meetings with the Head TA
  - Running two lab sections every week
  - Helping students with lab experiments
  - Grading late lab reports
  - Proctoring and grading tests/exams
  - Processing lab and test regrades

- Am I responsible for anything related to EdStem?

  TAs are not required to answer questions on EdStem; this is one of the primary responsibilities of the Head TA. However, TAs should be aware of any announcements made on EdStem that they can relay to their students.

- Do I have to do the homeworks on WeBWorK?

  No, TAs are not responsible for keeping up with the homework assignments, but students may ask you questions related to the homework.

- Do I have to do the lab experiments?

  No, TAs do not have to do the lab experiments, but they should be familiar with the premise of the experiment so they can answer questions about it. **This includes being familiar enough with Tracker and Glowscript to answer technical questions and help debug issues.**

- Am I required to hold office hours?

  No, lab TAs are not asked to hold office hours since most of them are first-years. However, TAs should be available via email outside of lab, and should be open to setting up 1-on-1 meetings with students if they wish to discuss something outside of lab.

Weekly Meetings

- What are the weekly meetings?

  Weekly meetings are with the Head TA. They are generally held on Fridays since this doesn't conflict with lab meetings.

- What happens at the weekly meetings?

  The Head TA will discuss the next week's GPS and introduce the next lab experiment when necessary. They may make announcements about upcoming deadlines that you can relay to the students, and they will offer you an opportunity to bring up any questions or concerns that you have regarding lab meetings.

- Are these meetings required?

  These meetings are required for any TA who has not been a TA for this class in the past. However, the Head TA will often make the weekly meeting prior to a test required for all TAs.

- Can I attend the meeting virtually?

  The weekly meeting is usually streamed/recorded on Teams for TAs who are unable to attend in person (sickness, travel, etc.). The meeting recordings will be available if a TA is unable to attend the meeting.

Lab Meetings/GPS

- How many lab sections am I responsible for?

  Unless specified, TAs are responsible for 2 in-person lab sections every week. You will have an opportunity to sign up for these before the semester begins. These lab sections should be at different dates/times.

- Are there lab meetings every week?

  Labs will meet most weeks, except during Week 1 and during any week where an institute holiday or break would interrupt lab meetings. This includes (but is not limited to) events like:

  - Fall semester: Labor Day, Fall Break, Thanksgiving
  - Spring semester: Martin Luther King Day, Spring Break
  - Summer semester: Juneteenth, Fourth of July

  To emphasize, labs are cancelled *only* if one of the above events disrupts lab meetings for the week. If the event does not conflict with any lab meetings, then they will proceed as normal.

- Are there still lab meetings during the test weeks?

  Yes, subject to the rule above. **TAs who have a lab period from 3:30-6:15 on the day of the test should release students by 5:45 at the latest so that they can prepare for the test.**

- How long do lab meetings last?

  Lab meetings are scheduled to last for up to 3 hours, but they often won't take this long.

- What does GPS stand for?

  GPS stands for "Group Problem Solving". Students will work together in groups to solve a packet of physics problems.

- What do I do during lab meetings?

  Before GPS starts, the TA should do a quick ($\lesssim$5 minutes) review of the material for GPS and write any relevant equations on the board. After giving the students a few minutes to get started, TAs are responsible for helping the groups of students work through GPS problems and checking each group out when they are done.

- How many students will I have?

  Most lab sections will have 25-30 students.

- Am I expected to keep track of all these students by myself?

  No, the Course Coordinator will attempt to fill every lab with a UTA who will assist you in helping students through GPS.

- What is the policy for putting students in groups?

  There is no standardized policy for how to organize students into groups – this is at the discretion of the individual TA. Some TAs have students switch groups every week; some TAs have student switch groups every few weeks (e.g., after every test); and some TAs don't have students switch groups.

- Are students allowed to work on GPS before coming to lab?

  No, students should reserve lab time for working on GPS. Otherwise, this defeats the purpose of the group work aspect of lab meetings.

- What do I do if my room needs supplies (markers, erasers, etc.)?

  These are usually stocked in the supply room (CULC 381). If supplies in the supply room are running low, please contact the Course Coordinator to let them know that they need to order more supplies.

Lab Experiments

- What are the lab experiments and how do they work?

  Lab experiments are small experiments that the students will do. Here are rough instructions for the lab experiments:

  1. Students will be given instructions to perform a small experiment that they will take a video of.
  2. They then upload this video to Tracker to extract data from it.
  3. Students will also create a computational model of the system in Glowscript that they can compare their data to.
  4. Students create a presentation discussing the experiment, the model, and their findings; they then record themselves going through the presentation.
  5. Often, students will upload their video to YouTube and submit the link, but students can also submit the video file itself.

- Do I have to do any of the lab experiments myself?

  No, but you should be familiar with the premise of the experiments so you can answer student questions. **This includes being familiar with how Tracker and Glowscript work.**

- Do I have to grade any lab reports?

  TAs will need to grade any late lab reports for their students. They will also need to handle any lab regrade requests (any lab regrades requested by students who submitted late will be handled by the Head TA).

- How do I grade lab reports?

  In Canvas, access the lab assignment, then go to "SpeedGrader" or "Peer Reviews" to find their name and access their submission. "SpeedGrader" has the option to filter by section, and "Peer Reviews" has the option to search for a student's name directly. Once there, watch their video and grade using the same rubric that the peer reviewers use. Once you reach a final grade, this becomes their lab submission score in the gradebook (**not** the peer participation score, which is a 0). If the student was not granted an extension or excuse, they should be applied a late penalty of half credit (e.g., 90/100 becomes 45/100). If the student had a legitimate extension or excuse, then no late penalty is applied, and the peer participation score is generally excused.

Proctoring

- How many times will I have to proctor during the semester?

  All the TAs will have to proctor the three midterm tests. Since first-year TAs have heavy courseloads, they are excused from proctoring the final exam.

- Where do we meet for proctoring?

  The Course Coordinator will usually ask the proctors to gather at their office, typically around an hour before the test begins.

- Do I have to take anything to the proctoring room?

  The proctors assigned to a testing room will need to take the tests and the attendance sheet(s) for the students.

- Do I have to put anything on the board?

  Most rooms should have a double projector system. A proctor should put a timer on one side, and a PowerPoint slide with instructions for the students on the other side.

- When should I have students sign in?

  Students can be signed in either before the test or after. This is up to the proctors in the room. Signing them in before the test can mitigate the work of signing them out afterwards, but it can be difficult to sign all students in before the test begins.

- What do I do during the test?

  The proctors should spread out across the room. You should monitor students for cheating, as well as be available to answer any clarifying questions. If you room decides to sign out students during the test, a proctor can do this as well. As students begin to finish, there should be at least one proctor up front to sign them out if students are signing out after the test.

- What do I do if I'm not sure how to answer a student's question, or if I'm not sure if I'm allowed to answer?

  There will be a proctoring megathread in Teams where you can ask questions and bring up concerns during the test.

- What do I do if I suspect a student is cheating?

  Try to get video evidence of cheating, and try to get the student's name when they sign out. If necessary, you can make an announcement during the test for students to keep their eyes on their own paper. Once the test is over, take/send the video(s) to the Course Coordinator.

- Do I have to do anything after the test?

  Please make sure the testing room is clean, and then take the graded tests back to the Course Coordinator's office.

- What do I do if I'm proctoring ODS students?

  The procedure for proctoring ODS students is slightly different. ODS students are proctored separately in Howey with one proctor in each room. ODS students often have accommodations including (but not limited to) extra time, breaks, and/or snacks. Proctors should display multiple timers (if possible), and should **not** walk around the room because this can be distracting to students. The Course Coordinator can provide more detailed instructions for proctoring ODS students.

- Are students allowed to bring food into the testing room?

  Students are not supposed to bring food into the testing room, but proctors don't have much ability to enforce this. Students shouldn't be *actively* eating during the test unless they have accommodations for this.

- Are proctors allowed to bring food into the testing room?

  No, proctors also should not bring food into the testing room.

Grading

- What do I have to grade?

  The primary grading responsibilities are grading tests/exams.

- How long do I have to grade tests?

  Tests occur on Monday evenings. Grading assignments are usually released midday Tuesday, and graders are typically asked to have grading done by the end of the day Saturday. This amounts to about 5 days.

- Where do I grade tests?

  Students submit tests on Gradescope. The Course Coordinator and Head TA will provide you with a starter rubric for grading.

- How do I grade tests?

  Here is a general guideline for the kinds of errors we deduct points for:

  - Clerical errors (-1) - these are small errors (e.g., calculator, sign, transcription, units, etc.) that impact a student's solution, but typically aren't an issue with their understanding of physics.
  - Minor errors (-20%) - these are typically math errors, or errors that derive from a student misunderstanding/misapplying a physics concept.
  - Major errors (-40%) - these errors arise from students seriously misunderstanding or neglecting a physics concept necessary for the solution.
  - Minimum progress (-80%) - this error is used for students who display some physics understanding, but haven't made serious progress towards the solution.

- What do I do if I'm unsure of how to grade something?

  There will be grading megathreads in Teams where you can ask questions about grading and communicate about grading policies with the other TAs.

- Can I make rubric items?

  Yes, you can make rubric items for recurring errors that are not clearly described by an existing rubric item. However, be **very** clear about how this rubric item should be used and why it is necessary. This is important both for the students and for the other graders.

- Do I have to leave comments on a student's submission?

  Comments aren't required. I've found them to be useful for explaining clerical and math errors.

- What is the "Submission Specific Adjustments" section at the bottom of the rubric?

  Do NOT use this section! It is very important that all students are graded consistently, and using this section causes inconsistencies between students' grades.

- What do I do if a student didn't assign pages?

  We ask students to assign pages to help streamline the grading process, but they are not required to do this. Do **not** mark them down for neglecting to assign pages or for assigning the incorrect page. Select "All Pages" in the lower left and find the correct work.

- A student submitted an enormous 1-page PDF, and I can't zoom in far enough to see their work. What do I do?

  In the lower left, select "All Pages" and then "Open PDF". This will open the PDF in a new tab at full resolution.

Regrades

- What will I be regrading?

  Students can request regrades on lab reports and tests. Lab regrades will come from students in your lab sections. Test regrades will come from students that you grade.

- How do lab regrades work?

  Students should submit a request in writing, and they can discuss with you if a regrade is sensible before submitting the request. Follow the same grading process used for late lab reports (without the late penalty). Once you reach a final grade, this overwrites their lab submission score in the gradebook (**not** the peer participation score). I also recommend sending the student an email explaining how they've been graded.

- How do test regrades work?

  Students submit requests directly through Gradescope. If the student requests a regrade, go back and grade their problem more carefully, being extra careful regarding the rubric item(s) they feel is (are) incorrect. You will need to update their score (if necessary) and respond to the regrade request in Gradescope.

- What if I need help with a regrade?

  If you're not sure how to grade the student, you can ask the Head TA for clarification.

- What if the regrade brings a student's grade down?

  It is the responsibility of the student to be confident that the regrade will improve their score; if not, that is their fault. This is also why you should be available to discuss potential regrades with your students before they formally submit the request.

- What if a student disagrees with the regrade?

  If a student refutes the regrade, it can be sent to the Head TA or Course Coordinator to be regraded. Students cannot refute regrades from the Head TA or Course Coordinator.

Summer Changes

When this course is offered over the summer, the following changes are made:

- The course is only 10 weeks long instead of 15.
- TAs are responsible for only one lab section every week, but this lab meeting is longer (up to 4 hours instead of up to 3).
- Lab meetings and proctoring are conducted over Teams. TAs will need to create a Team for their lab section, set up with channels for the groups that students will work in. **Please add both the Course Coordinator and Head TA as owners/managers so they have access in case of an emergency.**
- TAs do not have a UTA to assist with running lab meetings.
- TAs will only proctor their own students (except ODS students).