PHYS 205 Syllabus
Instructor: Andrea Goering, Summer 2022, CRNs 40143 and 40144

How Canvas Works

Canvas Overview
We will use Canvas for this course, and it is important that you know how it works. Log into canvas.uoregon.edu using your DuckID to access our class. If you have questions about accessing and using Canvas, visit the Canvas support page.

Remote and Canvas Support
By phone, email, or live chat:
541-346-1900 | uoonline@uoregon.edu | livehelp.uoregon.edu

How This Course Works

Ways to Communicate
Our class will communicate through our Canvas site. Announcements are archived there and automatically forwarded to your UO email, and can even reach you by text. Check and adjust your settings under Account > Notifications.

Combination of Group Work and Individual Work
This course involves a significant amount of collaborative group work as well as individual work. You are openly encouraged to work with your peers, however you are required to submit your own work. This is an effort to bring attention to the broad learning goals of group collaboration and group communication—two valuable skills that will readily transfer to any field. Additionally, we need some way to measure your individual contribution to your course grade. In doing so, we hope to provide a relevant and meaningful learning experience.

Lab Meetings (In Person)
Lab Meetings occur each week in Room 13 of Willamette Hall at the times listed in the table below.

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<tr>
<th>CRN</th>
<th>Day</th>
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<tr>
<td>41043</td>
<td>Tuesday and Thursday</td>
<td>1300-1530</td>
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In order to pass this course, you must attend and participate in all Lab meetings.

If you miss a lab due to some circumstance beyond your control (i.e. an emergency arises), contact the instructor as soon as you are able. We may be able to make arrangements to allow you to complete that week’s lab with the other section. Should such an issue arise, please contact Andrea (ayocom@uoregon.edu) as soon as possible.

A Lab Cycle

Each lab that we do in the course will have the following parts in this order:

**Prelabs** (2 points, Completed Individually)

Prelabs will be assigned at the beginning of the lab session. It should only take a few minutes and is meant for you to predict what you think will happen during the lab. Wrong answers are expected and okay! Click here for more info on the nature of Prelabs for this course.

**Lab Participation** (10 points, Completed Individually)

As noted above, much of the work in this class is done as a group. Unfortunately, in past terms many Groups reported frustration due to a lack of participation from a member of their Group. That frustration is warranted, and shared, by the entire teaching team. Such a lack of Participation is NOT OKAY.

Class Participation is more than sitting as a warm body in the class. Please come to class prepared to participate in group work and class discussions. Participation includes respect for your learning community by coming to class on time, turning off cell phones, and paying attention during class.

Teaching Team members will record the level of participation of Group members throughout the Lab meeting. Checkpoints throughout each lab are designed to provide formative assessments as you work through the Lab and will provide a basis for awarding participation points. If you are an active participant in each of those discussions you can expect to receive full points. If you are unresponsive or otherwise show a lack of participation, you should expect a low score in this category. Failure to call Teaching Team members to have checkpoint discussions will also result in low participation score for your Group.

**Lab Sheets** (Completed as a Group)

Lab sheets are provided to guide you through each of the Lab Activities. Groups should work on these collaboratively, though each student should retain a copy for their own records. These sheets will not be collected, however they will be very useful for Prelab Annotations as well as preparation for exams in the associated lecture course.

**Annotated Prelabs** (10 points, Completed Individually)
Prelab annotation involves modifying, correcting, and adding to the original Prelab response to show how your thinking evolved over the course of the Lab. The rubric used for Annotated Prelab grading is available on each assignment page. These should be completed shortly after the completion of Lab, and can be turned in at the homework box as soon as you finish, or by 1pm the day after Lab. Click here for a more detailed description of Annotated Prelabs.

**Follow-up Quizzes** (5 points, Completed Individually)

Follow-up Quizzes will be posted to Canvas after the conclusion of Labs each Tuesday and Thursday. These will open at 7PM and must be submitted by 8:59 AM the following morning. These quizzes are somewhat probing and have been designed to gauge the depth of your conceptual understanding. Click here for a more detailed description of Follow-up Quizzes.

**How You Are Graded**

The Lab Activities in this course have been designed to engage you in active role in your learning. Self-assessment is an important form of internal feedback for this process. In a very real sense we will be aiming to participate in the process of science in order to learn science. In this course students will:

- Understand the Process of Science.
- Draw meaningful conclusions from observations of the physical world.
- Construct knowledge in a way that does not rely on an outside authority.
- Develop accurate, evidence based, plain language explanations for many of the topics and phenomena discussed in the accompanying lecture course.
- Gain experience collecting and analyzing data, with the ability to extract physical quantities from fit parameters used in graphical representations.

Grades will be based on Prelabs, Participation, Prelab Annotation, and Follow-up Quizzes. There will be no final exam for this course. Your grade is entirely dependent on your participation in the course and the work you submit. Late work will be accepted for reduced credit. Here are the different items that you will be graded on in this course:

**Prelabs:**

(16 points total) Individual work graded on a 2 or 0 basis. A "2" means you have properly done the prep work. Incomplete or late work will earn half credit (1 point).

**Participation**

(80 points total) Individual work based on engagement in the Lab session. If you are an active participant in each of the discussions at Lab Checkpoints with Teaching Team members you can expect to receive full points.

**Prelab Annotations**
(80 points total) 10 points possible for each lab. This involves modifying, correcting, and adding to your original Prelab response and providing a narrative about at least 2 learning outcomes. Late submissions will be penalized at least 2 points.

Follow-Up Quizzes

(40 points total) 5 points possible for each Quiz.

Final Point Distribution

You are expected to attend and complete all labs, however, your lowest non-zero score from each category will be dropped and replaced by the average of your remaining scores. The approximate final grade distribution for this course will be as follows:

216 - 190 = A  
189 - 163 = B  
162 - 136 = C  
135 - 109 = D  
108 or below = F

Instructor Contact Information

Lab Teaching Team

- Instructor
  - Dr. Andrea Goering (she/her) ayocom@uoregon.edu
  - Please call me "Andrea"
  - Email Andrea with all general course questions, including if you have an emergency preventing your participation in a lab.
- Graduate Employees
  - Justin Kittell (he/him) jkittell@uoregon.edu
  - Justin will be grading the Annotated Prelabs and is thus the best contact for questions about those.
- Peer Learning Assistants
  - Ryan Pole
  - Jessica Batterman

Office Hours

Several office hours, with different instructors and GEs, will be available to suit your schedule. These are somewhat catered toward either the lecture course or the lab, but in reality any one of us should be able to help answer your questions!

- **Monday - Friday 9-10am** with Trevor and William, focused on the course material
● **Monday - Thursday 12-1pm** with Justin and William, focused on the course material (however, Justin is our lead GE and can answer lab questions! Note this office hour slot is a great opportunity to discuss your Annotated Prelabs before they are due at 1pm Wednesday.)

● **Tuesday and Thursday 12-1pm** with Andrea in the Lab room (Willamette 13)

If you have a private matter to discuss, you may schedule an appointment to meet with Andrea in her office (Room 143 Willamette) or via Zoom.

**Due Dates, Time Commitment, and Recommended Routine**

**Calendar**

We will use the Canvas Calendar for all due dates in this course. Check it regularly. Here is a video of how it works: [210 - Calendar Overview](https://vimeo.com) from Instructure Canvas Community on Vimeo.

**Time Commitment**

This is a 2-credit course, and according to the University of Oregon's [Summer Student Engagement policy](https://www.uoregon.edu), that means you should plan to spend 5 hours per week in Lab, and 10 hours a week outside of Lab, to be successful in this 4-week course. I would suggest you spend your time in the following ways each week:

- **Lab Activity ~ 2.5 hour**
- **Annotated Prelab ~ 1.5 hour** (Pro Tip: consider starting this soon after lab, taking a break for a few hours or overnight, and then reviewing it once more)
- **Follow-Up Quizzes ~ 0.5 hours**
- **Thinking about and responding to feedback so that you can improve ~ 0.5 hours**

Note this is only a total of 5 hours. Use the rest of those hours to:

- Review past Prelabs (as soon as grading is done, and again a few days later).
- Study for Follow-Up Redos by writing out an annotation for your Follow-Up Quizzes (the same procedure used for Prelabs is an effective study strategy - make note of your thinking and questions and review these with other students and the Teaching Team).
- Discuss your thinking with other students, GEs, or your instructor. Explaining ideas to someone else is one of the most effective study techniques out there. Finding connections between the lecture and Labs may be especially useful. Office hours are a great venue for this!
Routine

Here's the weekly routine. Yellow highlights indicate due dates. Blue highlights pertain to the Lab. Other items pertain to the associated lecture class and are included here to help you make your own weekly schedule.

Monday, Wednesday, and Friday afternoons look like great opportunities to review and study using the methods suggested above!

You will be provided a printed checklist on the first day of Lab to keep yourself organized.

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<td><em>Follow-Up Quiz Due 8:59am</em></td>
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Academic Integrity

The `University Student Conduct Code` defines academic misconduct, which includes unauthorized help on assignments and examinations and the use of sources without acknowledgment. Academic misconduct is prohibited at UO. I will report misconduct to the Office of Student Conduct and Community Standards—consequences can include failure of this course.

Academic Disruption

In the event of a campus emergency that disrupts academic activities, course requirements, deadlines, and grading percentages are subject to change. Information about changes in this course will be communicated as soon as possible by email, and on Canvas. If we are not able to meet face-to-face, students should immediately log onto Canvas and read any announcements and/or access alternative assignments. Students are also expected to continue coursework as outlined in this syllabus or other instructions on Canvas.
In the event that the instructor of this course has to isolate or quarantine and a substitute cannot be identified, this course may be taught online during that time.

University COVID-19 Regulations

`University COVID-19 Regulations`
To protect health and safety during the COVID-19 pandemic, the university requires that everyone on campus follow the rules listed below. The UO actively updates plans and protocols to ensure best practices in coordination with local, state, and federal health officials.

The key to keeping our community healthy and safe involves **prevention, containment, and support**. Here is information critical to how the UO is responding to COVID-19.

- **Prevention**: To prevent or reduce the spread of COVID-19 in classrooms and on campus, all students and employees:
  - Stay home/do not come to campus if feeling **symptomatic**
  - Must comply with **vaccination policy**
  - Must **wear face coverings** in all indoor spaces on UO campus (lifted March 2022, however the **use of face coverings is welcome and encouraged in our small Lab space**)
  - Complete weekly **testing** if not fully vaccinated or exempted
  - **Wash hands** frequently and practice social distancing when possible
  - Complete daily **self-checks**

- **Containment**: If you test positive or are exposed to COVID-19, please review your next steps using **UO's Interactive Isolation and Testing Guide**

- **Support**: Find support and information about COVID-19 on the **UO COVID-19 Safety Resources** page.

**UO Student Resources**

**Accessible Education Center**

The University of Oregon is working to create inclusive learning environments. Please notify me if there are aspects of the instruction or design of this course that result in disability-related barriers to your participation. You are also encouraged to contact the Accessible Education Center in 360 Oregon Hall at 541-346-1155 or **uoaec@uoregon.edu**.

**Your Well-being**

Life at college can be very complicated. Students often feel overwhelmed or stressed, experience anxiety or depression, struggle with relationships, or just need help navigating challenges in their life. If you’re facing such challenges, you don’t need to handle them on your own—there’s help and support on campus.

As your instructor, if I believe you may need additional support, I will express my concerns, the reasons for them, and refer you to resources that might be helpful. It is not my intention to know the details of what might be bothering you, but simply to let you know I care and that help is available. Getting help is a courageous thing to do—for yourself and those you care about.
University Health Services help students cope with difficult emotions and life stressors. If you need general resources on coping with stress or want to talk with another student who has been in the same place as you, visit the Duck Nest (located in the EMU on the ground floor) and get help from one of the specially trained Peer Wellness Advocates. Find out more at health.uoregon.edu/ducknest.

University Counseling Services (UCS) has a team of dedicated staff members to support you with your concerns, many of whom can provide identity-based support. All clinical services are free and confidential. Find out more at counseling.uoregon.edu, or by calling 541-346-3227 (anytime UCS is closed, the After-Hours Support and Crisis Line is available by calling this same number).

Center for Multicultural Academic Excellence

The Center for Multicultural Academic Excellence specializes in providing a culturally supportive environment that empowers self-identified students of color to fulfill their educational and career goals.

Office of Academic Advising

The Office of Academic Advising guides UO students in pursuing their academic goals. And you’ll see the beautiful new Tykeson building between Chapman and Johnson halls—this will be the new site of pre-major advising and the Career Center; its services are clustered around compelling areas called “Flight Paths” that helps students identify interests that span majors and are linked to co-curricular and career-readiness opportunities.

Tutoring and Academic Engagement Center

The Tutoring and Academic Engagement Center offers tutoring and other opportunities to help students succeed.

Office of the Dean of Students

The Office of the Dean of Students assists students who are struggling with any crisis impacting their academics by offering resources, support, referral, and case management to overcome these barriers.
Appendix: Detailed Information on Course Elements

Prelabs

The goal of the pre-lab is to produce a record of your current understanding of the topics investigated in the lab. It should only take a few minutes and is meant for you to predict what you think will happen during the lab. Wrong answers are expected and okay! Prelabs will be assigned at the beginning of the lab session. Students will work on this individually and submit before beginning Lab Activities. These submissions will be graded for completion during the Lab. You will not lose points for having incorrect responses to the Prelab questions. As a part of the Lab cycle, you will assess your responses to, and your thinking about, the prompts in the Annotated Prelab.

A completed pre-lab is worth 2 points of your lab grade.

Annotated Pre-Labs

Annotated Prelabs will be submitted by 1pm the day after Lab. This is one of the most important parts of the Lab experience. The self-assessment of your Prelab responses, coupled with the reflection on Learning Outcomes associated with each lab, offer you an opportunity to clearly communicate your understanding of the topics at hand. Each lab will ask you to reflect on your learning by collaborating with your lab partners to compare your original pre-lab response to your current understanding. By “annotating” your prelab, you will be developing a very customized study aid. Together with your partners, go over the questions and come to agreement on how to explain them.

Devise (and provide) a key that makes sense to you in distinguishing between thinking that you should hang onto and thinking that you should let go. Perhaps you will choose to use different colored ink to annotate your prelab. Maybe using green or blue for the parts of your reasoning that were productive, and red or orange to emphasize parts that you feel are problematic and need revising. Add brief comments to identify where and how your initial ideas were problematic. Focus not just on whether you had the correct answers, but also on the quality of your explanations. It is ok if you still have some questions - make note of them, being as specific as possible. "I don't get this concept" is not a specific question.

Additionally, you will need to provide a narrative about your thinking and understanding of at least two of the Learning Outcomes listed at the top of every Lab sheet as well as in each Lab Overview.

Credit on the annotated prelab will be awarded for demonstrating:

i. an in-depth understanding of the physics concepts and reasoning needed to meet the Learning Outcomes, and

ii. how your thinking and understanding of the Learning Outcomes changed and evolved.
These are rather high cognitive goals we are attempting to obtain. Engaging in this sort of self-reflection is likely an exercise that is somewhat unfamiliar. This may take several weeks to build the habit of in-depth self-reflection, but it is definitely worth the effort. There is ample evidence that indicates that those who spend time engaging in thinking about their learning, learn better. This is an exercise in metacognition, intended to offer an opportunity to practice honing critical thinking skills.

It may be helpful to think about this as providing a narrative that tells the story of how you learned a particular physics concept. The rubric used to grade your submissions will be visible on each Annotated Prelab assignment page.

**Follow-Up Quizzes**

To assist and assess conceptual understanding, Follow-up Quizzes will be posted to Canvas. These will **open at 7PM on Lab day and must be submitted by 8:59 AM the following morning**. These quizzes are somewhat probing and have been designed to gauge the depth of your conceptual understanding.

Follow-up Quiz results will be used to inform the Teaching Team’s meeting so that we may use the limited time we have available for class-wide discussion most efficiently. At the end of the term, you will have the opportunity to re-do the Follow-up Quizzes. Though primarily intended as a study resource for the final exam in lecture, this also offers a chance to earn back some of the Follow-up points that you might have lost throughout the term (the max score on the Follow-Up Redo is 4 points, whereas the max score on the original Follow-Up is 5 points). Only the higher score of the Follow-up and the Follow-up Redo for each lab will contribute to your course grade.