

Course Syllabus

PHY2020 Principles of Physics - Fall 2023

CONTACT INFORMATION

Instructor

Prof. Hai-Ping Cheng

Office Phone

(352) 392-6256

Email: Use Canvas email

Office Hours

Tuesday 1:55-2:45 pm, Thursday, 12:50-1:40pm

Credit Hours 3

For questions about course content, your grade, or other personal issues, use the Canvas mail tool. Expect a response within 24 hours on weekdays.

COURSE DESCRIPTION

This course exposes students to the foundations and principles of physics—the most fundamental of the experimental sciences—to give you a greater appreciation of the world around you and how it works. It assumes no previous background in physics, provides a one-semester overview of the subject, and meets the General Education Physical Science (“P”) requirement. It may be useful as preparation for courses such as PHY 2048 and PHY 2053.

General Education State Core category: Natural sciences

General education areas satisfied by the course: Physical Sciences (P)

COURSE REQUIREMENTS

Recommended Textbooks

1. Douglas Giancoli, *Physics: Principles with Applications*, published by Pearson

2. Paul Hewitt, *Conceptual Physics*, published by Pearson. Available through UF Access

Use of one or other of these textbooks may be helpful, **but is not required**. Each book has several editions that are basically the same, and many used copies are available. \$20 should buy a decent copy. In general, Giancoli's book is more formal and quantitative, whereas Hewitt's book is more conceptual with words and pictures. Depending on your learning preferences, you may find one book or the other more useful.

The Hewitt book participates in the UF All Access program and if you decide to participate (optional) you will receive a code to use in accessing the ebook direct from this Canvas course by clicking on "Pearson Revel" in the sidebar. Here's a [flyer Download flyer](#) describing the process and how to receive customer support if you have issues.

Prerequisites

Facility with high school math (basic algebra, geometry, and trigonometry) is expected.

Minimum Technology Requirements

Honorlock Requirements: In order to take exams under the supervision of Honorlock, you need access to a computer with a video camera, a microphone, and a good internet connection, located in a quiet room where you can take the exams in privacy. You must take your exam using the Google Chrome browser after installing the Honorlock extension. It is your responsibility to be sure you meet all these technical requirements. You are strongly advised to check your setup ahead of each exam using the link at <https://honorlock.com/support/>. Interruptions in the internet connection or entry of other persons into the room will be reported by Honorlock and investigated to ensure the academic integrity of the exam.

Calculator: A calculator is required for numerical calculations, and the [Honorlock Scientific Calculator](#) may be used instead of a physical calculator for all coursework. Note: Only the Honorlock Scientific Calculator is permitted during exams. Therefore it is advised to become accustomed to using this calculator in your practice.

Minimum Technical Skills

To complete your tasks in this course, you will need a basic understanding of operating a computer and using word processing software. You will also need basic understanding of how to operate a scientific calculator, including knowledge of entering values in scientific notation, using trig functions, and how the calculator uses order of operations to perform calculations.

Materials/Supply Fees

There is no supply fee for this course.

Honorlock

Honorlock is an online proctoring service that allows students to take exams on-demand 24/7. There are no scheduling requirements or fees.

You will need a laptop or desktop computer with a webcam, a microphone, and a photo ID. The webcam and microphone can be either integrated or external USB devices.

Honorlock requires that you use the [Google ChromeLinks to an external site.](#) browser and that you must add the Honorlock extension to Chrome.

For further information, FAQs, and technical support, please visit [HonorlockLinks to an external site.](#)

Zoom

Office hours will be conducted via Zoom. You can find resources and help using Zoom at the [University of Florida's Zoom websiteLinks to an external site.](#)

COURSE OBJECTIVES

This course offers General Education credit in the Physical Sciences, for which program area the objective is as follows: “Physical science courses provide instruction in the basic concepts, theories and terms of the scientific method in the context of the physical sciences. Courses focus on major scientific developments and their impacts on society, science and the environment and the relevant processes that govern physical systems. Students will formulate empirically-testable hypotheses derived from the study of physical processes, apply logical reasoning skills through scientific criticism and argument, and apply techniques of discovery and critical thinking to evaluate outcomes of experiments.”

To achieve these goals, students will be expected to:

- A. analyze particular physical situations, and thus identify the fundamental principles pertinent to the situations,
- B. apply principles to particular situations,
- C. solve any equations arising from the application of identified principles of physics,
- D. communicate results of calculations unambiguously by reporting values containing appropriate precision and units.

General Education credit will be earned only for a grade of C or higher in the course.

Student Learning Outcomes

This course will also assess Student Learning Outcomes covering both content and skills:

- *Content*: Students demonstrate competence in the terminology, concepts, theories and methodologies used within the discipline.
- *Communication*: Students communicate knowledge, ideas and reasoning clearly effectively in written and oral forms appropriate to the discipline.
- *Critical Thinking*: Students analyze information carefully and logically from multiple perspectives, using discipline-specific methods, and develop reasoned solutions to problems.

The Student Learning Outcomes will be assessed through 16 graded quizzes (one per course module) plus three graded and proctored examinations. Quiz and exam questions will cover all subjects listed in the syllabus. Typical questions will require students to complete successfully all four steps outlined in the area objectives above. Obtaining the correct result to the question posed in the form requested in the question will be taken as evidence that all four of the steps have been correctly and successfully completed. In some questions students will be expected to choose between a series of possible explanations of physical outcomes; such explanations may be presented as graphs, numerically or in words. Although knowledge of the fundamental principles of physics is necessary for success in the course, the stress is on understanding how to apply the principles to a variety of situations; rote memorization is minimal.

COURSE POLICIES

Attendance

Since the course is online, you can work at your own pace provided that you complete all quizzes and exams by the deadlines set in the course schedule below. You have access to all instructional materials from the first day of the course. Generally, you can work ahead on all quizzes leading up to the next exam.

As this is an online class, you are responsible for observing all posted due dates and are encouraged to be self-directed and take responsibility for your learning.

Make-Ups

Make-ups are rare but will be considered on a case-by-case basis, consistent with university policies that can be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx> . Contact the

instructor at least five UF teaching days in advance for predictable events, or as soon as possible after any emergency.

Extra Credit

The only extra credit planned is for a mid-course survey. Individual extra credit assignments will not be allowed out of fairness to other students.

GRADING POLICY

I will make every effort to have each assignment graded and posted within one week of the due date.

Course Grading Policy

This course evaluates your progress on the learning outcomes as you demonstrate your understanding completing the assignments in two primary categories: quizzes and exams.

| Assignment Group | Percentage of Course Total |
|-------------------------|-----------------------------------|
| 16 quizzes | 10% combined |
| 3 exams | 90% (30% for each exam) |
| 1 course survey | 2% |

QUIZZES: The 16 quizzes are untimed and taken in Canvas. You may submit each quiz just once. It may be attempted at any time between its opening and 11:59 p.m. on the day before the next exam is scheduled. However, quizzes submitted after 11:59 p.m. on the quiz's due date will receive only a fraction of the credit that the same answers would have received for an on-time submission. Submissions that are up to 24 hours late will receive credit for 75% of the raw score, while submissions that are more than 24 hours late will receive credit for 50% of the raw score. It is in your best interest to submit each quiz on time.

EXAMS: The three exams are timed (120 minutes) and taken in Canvas under the supervision of Honorlock during a window specified in the Course Schedule below. You do not need to schedule a start time in advance, but you must meet all Honorlock technical and administrative requirements and submit the exam before the end of its window. Details are in the [Start Here Canvas module](#). It is your responsibility to take each exam within its specified window.

CALCULATING SCORES AND OVERALL GRADE: All scores and grades in the course will be communicated to students via the Canvas Gradebook (Grades in the left margin of the Canvas page). Scores on each quiz and exam will appear automatically in the gradebook so students can estimate their projected grade:

- "Quizzes" = (points earned on quizzes) / (points available on quizzes attempted) x 100%
- "Exams" = (points earned on exams) / (points available on exams attempted) x 100%
- "Total" = 0.1 x (Quizzes %) + 0.9 x (Exams %) + 0.02 x (Extra Credit %)

Grading Scale

| Percent | Grade | Grade Points |
|---------|-------|--------------|
| 76% | A | 4.00 |
| 71% | A- | 3.67 |
| 66% | B+ | 3.33 |
| 61% | B | 3.00 |
| 56% | B- | 2.67 |
| 51% | C+ | 2.33 |
| 46% | C | 2.00 |
| 42% | C- | 1.67 |
| 38% | D+ | 1.33 |
| 34% | D | 1.00 |
| 31% | D- | 0.67 |
| <31% | E | 0.00 |

This grading scale, which may seem generous, takes account of the fact that scores on "fill-in-the-blank" tests are typically lower than scores on multiple-choice tests.

Current UF grading policies for assigning grade points can be found in the Undergraduate Catalog; See the [current UF grading policies](#) [Links to an external site.](#) for more information.

UF POLICIES

University Policy on Accommodating Students with Disabilities

Students with disabilities requesting accommodations should first register with the [Disability Resource Center](#) [Links to an external site.](#) (352-392-8565) by providing appropriate documentation. Once registered, students will receive an accommodation letter that must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

University Policy on Academic Conduct

UF students are bound by The Honor Pledge, which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The [Student Honor Code and Student Conduct Code](#) [Links to an external site.](#) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Plagiarism

The [Student Honor Code and Student Conduct Code](#) [Links to an external site.](#) states that a Student must not represent as the Student's own work all or any portion of the work of another. Plagiarism includes but is not limited to:

- Stealing, misquoting, insufficiently paraphrasing, or patch-writing.
- Self-plagiarism is the reuse of the Student's own submitted work, or the simultaneous submission of the Student's own work, without the full and clear acknowledgment and permission of the Faculty to whom it is submitted.
- Submitting materials from any source without proper attribution.
- Submitting a document, assignment, or material that, in whole or in part, is identical or substantially identical to a document or assignment the Student did not author.

Netiquette and Communication Courtesy

It is important to recognize that the online classroom is in fact a classroom, and certain behaviors are expected when you communicate with both your peers and your instructors. These guidelines for online behavior and interaction are known as netiquette. Please review the [Netiquette Guide for Online Courses](#). [Links to an external site.](#)

COURSE SCHEDULE

| Day | Date | Assignment | Title |
|------|---------|--|---|
| Wed | Aug 23 | COURSE OPENS | |
| Fri | Aug 25 | Quiz 1 due (1 question) | <i>Introduction to Physics</i> |
| Tue | Aug 29 | Quiz 2 due (4 questions) | <i>Vectors and Geometry</i> |
| Tue | Sept 5 | Quiz 3 due (4 questions) | <i>Description of Motion and Falling Bodies</i> |
| Tue | Sept 12 | Quiz 4 due (5 questions) | <i>Newton's Laws</i> |
| Tue | Sept 19 | Quiz 5 due (3 questions) | Circular Motion and Newtonian Gravity |
| Tue | Sept 26 | Quiz 6 due (4 questions) | Work and Energy |
| Wed | Sept 27 | Quizzes 1-6 close | |
| Thur | Sept 28 | Exam 1 | Covers Modules 1-6 |
| | | 120 minutes, start after 7am, end by 11:59pm | |
| Wed | Oct 4 | Quiz 7 due (3 questions) | <i>Momentum</i> |
| Thu | Oct 12 | Quiz 8 due (3 questions) | <i>Rotational Motion and Equilibrium</i> |
| Thu | Oct 19 | Quiz 9 due (3 questions) | <i>Structure of Matter</i> |
| Tue | Oct 24 | Quiz 10 due (3 questions) | <i>Fluids and Archimedes' Principle</i> |
| Wed | Oct 25 | Quizzes 7-10 close | |
| Thur | Oct 26 | Exam 2 | Covers Modules 7-10 |
| | | 120 minutes, start after 7am, end by 11:59pm | |
| Wed | Nov 1 | Quiz 11 due (4 questions) | <i>Temperature and Heat</i> |
| Wed | Nov 8 | Quiz 12 due (4 questions) | <i>Waves and Sound</i> |

| | | | |
|---|--------|--|------------------------------|
| Tue | Nov 14 | Quiz 13 due (3 questions) | <i>Electrostatics</i> |
| Nov 21-25: Thanksgiving Week (no office hours) | | | |
| Mon | Nov 27 | Quiz 14 due (3 questions) | <i>Electric Currents</i> |
| Fri | Dec 1 | Quiz 15 due (3 questions) | <i>Magnets and Magnetism</i> |
| Wed | Dec 6 | Quiz 16 due (3 questions) | <i>Light Rays</i> |
| Tue | Dec 12 | Quizzes 11-16 close | |
| Wed | Dec 13 | Exam 2 | Covers Modules 7-10 |
| | | 120 minutes, start after 7am, end by 11:59pm | |

GETTING HELP

Technical Difficulties

For help with technical issues or difficulties with Canvas, please contact the UF Help Desk at:

- <http://helpdesk.ufl.edu> [Links to an external site.](#)
- (352) 392-HELP (4357)
- Walk-in: HUB 132

Any requests for make-ups due to technical issues should be accompanied by the ticket number received from the Help Desk when the problem was reported to them. The ticket number will document the time and date of the problem. You should email your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Health and Wellness

- U Matter, We Care: If you or someone you know is in distress, please email umatter@ufl.edu, call 352-392-1575, or visit [U Matter We Care](#) [Links to an external site.](#) to refer or report a concern, and a team member will reach out to the student in distress.
- Counseling and Wellness Center: Visit the [UF Counseling & Wellness Center](#) [Links to an external site.](#) website or call 352-392-1575 for information on crisis services and non-crisis services.
- Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the [UF Student Health Care Center](#) [Links to an external site.](#) website.

- University Police Department: Visit the [UF Police DepartmentLinks to an external site.](#) website or call 352-392-1111 (or 9-1-1 for emergencies).
- UF Health Shands Emergency Room/Trauma Center: For immediate medical care in Gainesville, call 352-733-0111, or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the [UF Health Shands Emergency Room/Trauma CenterLinks to an external site.](#) website.

ACADEMIC AND STUDENT SUPPORT

- Career Connections Center: For career assistance and counseling services, visit the [UF Career Connections CenterLinks to an external site.](#) website or call 352-392-1601.
- Library Support: For various ways to receive assistance concerning using the libraries or finding resources, visit the [UF George A. Smathers Libraries Ask-A-LibrarianLinks to an external site.](#) website.
- Teaching Center: For general study skills and tutoring, visit the [UF Teaching CenterLinks to an external site.](#) website or call 352-392-2010.
- Writing Studio: For help with brainstorming, formatting, and writing papers, visit the [University Writing Program Writing StudioLinks to an external site.](#) website or call 352-846-1138.

COURSE EVALUATIONS

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available on the GatorEvals [Providing Constructive FeedbackLinks to an external site.](#) FAQ page. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via the [GatorEvalsLinks to an external site.](#) website. Summaries of course evaluation results are available to students at the [GatorEvals Public ResultsLinks to an external site.](#) page. More information about UF's course evaluation system can be found at the GatorEvals - [Faculty EvaluationsLinks to an external site.](#) website.

ONLINE PROCTORING WITH HONORLOCK

In order to maintain a high standard of academic integrity and assure that the value of your University of Florida degree is not compromised, course exams will be

proctored. Some students will take their exams online and will be proctored by Honorlock. You will take your exam electronically using the course website. You **do not** need to register for your exam. However, you will need to have installed and enabled the Google Chrome Honorlock extension prior to taking your exams. You will need a webcam, speakers, microphone, laptop or desktop computer, and a reliable Internet connection to take your exams. Wireless internet is not recommended. You may also need a mirror or other reflective surface. Google Chrome is the only supported browser for taking exams in Canvas.

Before Your Exam

Prior to each exam and in the same environment you plan to take the exam, review the [Honorlock Guidelines \(Links to an external site.\)](#), and go to [Honorlock Support \(Links to an external site.\)](#) to run a system check. This process takes just a few minutes and is completely free. If your course offers an Honorlock Practice Quiz, it is strongly recommended that you take it to practice using Honorlock before your exams.

Important: If you are unable to take an exam because of a technical glitch on your end, that is your responsibility. However, if you do experience technical difficulties during the exam, Honorlock's support menu will be visible on-screen for you to contact a support agent.

Getting Help

Honorlock offers 24/7/365 technical support to assist students before, during, and after exams. If you experience any trouble with Honorlock, begin a live chat on the [Honorlock Support \(Links to an external site.\)](#) page, call 844-243-2500, or email Support@Honorlock.com.

PRIVACY AND ACCESSIBILITY POLICIES

For information about the privacy policies of the tools used in this course, see the links below:

- Instructure (Canvas)
 - [Instructure Privacy Policy](#)
 - [Instructure Accessibility](#)
- Zoom
 - [Zoom Privacy Policy](#)[Links to an external site.](#)
 - [Zoom Accessibility](#)[Links to an external site.](#)
- Microsoft
 - [Microsoft Privacy Policy](#)[Links to an external site.](#)
 - [Microsoft Accessibility](#)[Links to an external site.](#)
- Adobe

- [Adobe Privacy Policy](#)Links to an external site.
 - [Adobe Accessibility](#)Links to an external site.
- Honorlock
 - [Honorlock Privacy Policy](#)Links to an external site.
 - [Honorlock Accessibility](#)Links to an external site.

(Links to an external site)

TIPS FOR SUCCESS

Taking a course online can be a lot of fun! Here are some tips that will help you get the most of this course while taking full advantage of the online format:

- Schedule "class times" for yourself. It is important to do the coursework on time each week. You will receive a reduction in points for work that is turned in late!
- Read ALL of the material contained on this site. There is a lot of helpful information that can save you time and help you meet the objectives of the course.
- Print out the Course Summary located in the Course Syllabus and check things off as you go.
- Take full advantage of the online discussion boards. Ask for help or clarification of the material if you need it.
- Do not wait to ask questions! Waiting to ask a question might cause you to miss a due date.
- Do your work well before the due dates. Sometimes things happen. If your computer goes down when you are trying to submit an assignment, you'll need time to troubleshoot the problem.
- To be extra safe, back up your work to an external hard drive, thumb drive, or through a cloud service.

Course Summary:

| Date | Details | Due |
|------------------|--|-------------------|
| Thu Aug 24, 2023 | Calendar Event PHY2020 - Intro Prin of Physics - Fall 2023 | 12:50pm to 1:35pm |
| Fri Aug 25, 2023 | Quiz Quiz 1 | due by 11:59pm |

| Date | Details | Due |
|------------------|------------------------------|----------------|
| Tue Aug 29, 2023 | Quiz Quiz 2 | due by 11:59pm |
| Tue Sep 5, 2023 | Quiz Quiz 3 | due by 11:59pm |
| Tue Sep 12, 2023 | Quiz Quiz 4 | due by 11:59pm |
| Tue Sep 19, 2023 | Quiz Quiz 5 | due by 11:59pm |
| Tue Sep 26, 2023 | Quiz Quiz 6 | due by 11:59pm |
| Wed Oct 4, 2023 | Quiz Quiz 7 | due by 11:59pm |
| Thu Oct 5, 2023 | Quiz Exam 1 | due by 11:59pm |
| Fri Oct 6, 2023 | Quiz Exam 1 | due by 11:59pm |
| Tue Oct 10, 2023 | Quiz Quiz 5 | due by 11:59pm |
| | Quiz Quiz 6 | due by 11:59pm |
| Thu Oct 12, 2023 | Quiz Quiz 8 | due by 11:59pm |
| Wed Oct 18, 2023 | Quiz Exam 1 | due by 11:59pm |
| Thu Oct 19, 2023 | Quiz Quiz 9 | due by 11:59pm |
| Tue Oct 24, 2023 | Quiz Quiz 10 | due by 11:59pm |
| Thu Oct 26, 2023 | Quiz Exam 2 | due by 11:59pm |
| Fri Oct 27, 2023 | Quiz Exam 2 | due by 11:59pm |

| Date | Details | Due |
|------------------|--|-------------------|
| | Quiz Mid-Course Survey | due by 11:59pm |
| Mon Oct 30, 2023 | Quiz Exam 2 | due by 11:59pm |
| Wed Nov 1, 2023 | Quiz Quiz 11 | due by 11:59pm |
| Wed Nov 8, 2023 | Quiz Quiz 12 | due by 11:59pm |
| Tue Nov 14, 2023 | Quiz Quiz 13 | due by 11:59pm |
| Thu Nov 16, 2023 | Calendar Event PHY2020 - Intro Prin of Physics - Fall 2022 | 12:50pm to 1:35pm |
| Thu Nov 23, 2023 | Calendar Event PHY2020 - Intro Prin of Physics - Fall 2022 | 12:50pm to 1:35pm |
| Mon Nov 27, 2023 | Quiz Quiz 14 | due by 11:59pm |
| Thu Nov 30, 2023 | Calendar Event PHY2020 - Intro Prin of Physics - Fall 2022 | 12:50pm to 1:35pm |
| Fri Dec 1, 2023 | Quiz Quiz 15 | due by 11:59pm |
| Wed Dec 6, 2023 | Quiz Quiz 16 | due by 11:59pm |
| Thu Dec 7, 2023 | Calendar Event PHY2020 - Intro Prin of Physics - Fall 2022 | 12:50pm to 1:35pm |
| Wed Dec 13, 2023 | Quiz Exam 3 (Final) | due by 11:59pm |
| | Quiz Exam 3 (Final) | due by 11:59pm |

Assignments are weighted by group:

| Group | Weight |
|--------------|--------|
| Assignments | 0% |
| Quizzes | 10% |
| Exams | 90% |
| Extra Credit | 2% |
| Total | 102% |