

Course Syllabus

PHY2053 **COURSE SYLLABUS**

COURSE DETAILS

COURSE INSTRUCTOR

Your Instructor: TBD

Office Hours: TBD

Office: TBD

Classes are conducted in person.

Communication with the instructor:

TEACHING ASSISTANT

Your TA: TBD

Office Hour: TBD

MEET TIMES

This course will meet on TWR at 5:00 - 6:15 pm (7th period) in person. The student is expected to have an iClicker account already set up. See [this page](#) for instructions if you need to setup iClicker or if you have technical difficulties and need iClicker support.

The discussion sections meet on M, 5:00 - 6:15 pm.

WEBSITE

The course is run through Canvas. The web site for the course is accessed through UF e-Learning.

This site will contain **important announcements, posted lectures, access to assignments, homework solutions, answers to taken exams, and course grades.**

TEXTBOOK

The required text (e-book) is *College Physics: A Strategic Approach* by Knight, Jones, and Field (4e).

You can acquire the e-book from UF All Access. Here is a pdf with [more information](#) [Download more information](#) on how to acquire it.

Suggested supplementary textbooks include:

- *College Physics: Openstax* by Paul Urone and Roger Hinrichs
- *University Physics with Modern Physics* by Young and Freedman (13e)
- *Sterling Test Prep MCAT Physics Practice Questions* (2019)

LECTURE SLIDES & HOMEWORK SOLUTIONS

The lecture slides and homework solutions are posted [here](#).

PREREQUISITES

High school algebra and trigonometry, or the equivalent.

DESCRIPTION

This course is the first semester of algebra-based introductory physics (“Physics 1”). The topics covered include kinematics, Newton’s laws of motion (dynamics), circular and rotational motion, equilibrium, elasticity, energy, momentum, fluids, oscillations, waves, and sound. It is typically followed by a second-semester course, PHY2054 (“Physics 2”), covering electromagnetism.

PURPOSE

The purpose of this course is to provide you with a foundation in the concepts, fundamental principles, and analytic techniques needed to solve problems arising in the context of Newtonian mechanics. Examples include knowing how to calculate the maximum height of a projectile, the tension in a support beam, the velocity of an object after a collision, the pressure at a given depth in a fluid, and the resonant sound frequencies in an open pipe. The course is designed for people who have already had a basic introduction to physics in high-school or otherwise.

OBJECTIVES

By the end of this course, you will have a solid foundation in the concepts, principles, terminology, and methodologies used to describe motion (translational, rotational and combined) of simple objects, the basic properties of matter, harmonic oscillations, and wave motion. Specifically, you will be able to:

- **Analyze** particular physical situations, and thus identify the fundamental principles pertinent to those situations,
- **Apply** fundamental principles to formulate mathematical equations describing the relationship between physical quantities in these particular situations,
- **Solve** mathematical equations to find the values of physical quantities,

- **Communicate** unambiguously both the principles that apply to a situation and the results of specific calculations resulting from the steps above.

COURSE SCHEDULE

The detailed course schedule, including the topics covered and exam dates, is available on the [Course Schedule](#) [Download Course Schedule](#).

ASSESSMENT

Your grade is determined by your performance on the following in-class and out-of-class components: 4 exams, weekly quizzes, homework, and in-class participation. The points these components contribute to the total grade is shown in the following table:

Item	Max Points	Max Drops
Exams 1,2, and 3	18	0
Final	21	0
Quizzes	20	1
iClicker Problems	2.5	4
Group Problem	2.5	2
Homework	5	2
Total Course Points	105	

GRADING SCALE

Your course grade **will not be assigned based on a curve**, but will be based on the following 105-point fixed scale:

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
85	80	75	70	65	60	55	50	45	40	35	<35

The advantage of the fixed scale is that you are not competing with other students to “get ahead of the curve”. Everyone who works hard can do well in the class, and to the extent that it helps you learn, we encourage collaboration.

Note: A grade of C- is not a qualifying grade for major, minor, Gen Ed, or College Basic distribution credit. For further information on UF's Grading Policy, see:

- <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx#hgrades>Links to an external site.
- <http://www.isis.ufl.edu/minusgrades.html>Links to an external site.

DROPPED ASSIGNMENTS

Dropped Assignments: A combination of planned and unforeseen factors may cause you to miss some classes or discussion sections, additionally, it is likely for most of us to have a bad day or week (for any number of reasons) during the semester. To accommodate this reality, we drop the lowest scoring assignments as a "make-up" policy for excused and unexcused absences to accommodate circumstances that may arise throughout the semester that may hinder your performance in the online HW and the discussion section quizzes. Homework, discussion participation bonus, and iClicker bonus assignment categories include dropped assignments as stated above, and discussion quiz will permit one dropped assignment. No exam will be dropped.

EXAMS – ALL DATES ARE TENTIVE AT TIME OF POSTING

There are three during-term evening exams and 1 final exam on the last day of class. The first three exams each contributes 18 points to your grade. The final exams contribute 21 points. There is no forgiveness factor for exams. Exam 1 is currently scheduled for Tuesday, June 6th, and will cover chapters 1 to 4, inclusively. Exam 2 is on Wednesday, July 5th, and will cover chapters 5 to 7, inclusively. Exam 3 is scheduled for Tuesday, July 25th, and will consist of the topics covered from chapters 8 to 10. The final will be fully commutative and is scheduled for the last day of class, Thursday, August 10th. All exams will be taken during the normal class period.

If you are on either the vet or med school track you should be aware that the GRE, required for Veterinary programs, provides their own simple calculators, while the MCAT does not permit calculators at all. In this class, **calculators for exams are permitted but not for quizzes**. Use of calculator constitutes academic fraud. Scratch paper and an official formula sheet for the exam will be provided.

In addition to the regular exam dates, there will also be makeup exam dates, to be announced as soon as we have the information. A student who will miss an exam due to an exam conflict or any other foreseeable reason that is approved under UF attendance policies should request **in advance** to take the makeup exam instead of the regular exam. A student who has an unforeseeable

absence from an exam should contact the instructor as soon as possible, normally within 24 hours after the missed exam. If the unforeseeable absence is excused by the instructor, the student will be expected to take the makeup exam unless they have another exam conflict or reason that is approved under UF attendance policies. The makeup exam will cover the same essential subject matter as the regular exam and in a similar format, although the exams will not be identical.

HOMWORK

Weekly homework sets will be due on Mondays at 12:00 AM and the next homework set will be made available on that same Monday. The homework will be assigned through the Pearson website found in the [My Lab and Mastering](#) tab on Canvas. **There is a forgiveness of 2 homework sets with the lowest scores calculated at the end of the semester.** The homework sets will count for 1 point per problem. Each individual homework set will be worth a varying degree of points based on the number of problems. Expect about 15-20 questions per week but of varying difficulty and style (multiple choice, conceptual, calculation, graphical, etc.).

Full solutions to homework will be available after the due date and will be on the same Pearson website where you do the homework. Late submissions are not accepted.

You should follow appropriate practices of academic honesty when working on the homework problems. In doing the homework, discussions with colleagues and/or tutors about methods of posing and solving a homework problem are acceptable and encouraged. Even if you worked through a formula with classmates, you will still benefit from re-deriving the result on your own. Some of the exam and quiz questions will be based on the homework problems, and you will not have the opportunity to get help from anyone else during those tests. Treat the homework as practice and a place to try, fail, succeed, and grow before for the quizzes and exams.

IN-CLASS QUIZZES

Quizzes start in the second week of class, Monday, May 22nd. A quiz will usually be administered during the last 20 minutes of the Monday discussions on weeks without an exam. The quizzes are paper based.

The quizzes will test how well you have learned the concepts and methods of the assigned homework problems. **The quiz questions will be related to, but rarely identical to, the online homework problems.** The problems may be restructured to provide guidance, allow awarding of partial credit, and discourage memorization of a solution formula. Formula sheet will be provided for the quiz. Scientific calculators without internet functionality are allowed.

There will typically be two questions on each weekly quiz. Each question will be graded on a 5-point scale. 2 points will be awarded for the correct answer. Another 3 points will be awarded based on the explanation (effectively acting as partial credit if you get the problem wrong). You are expected to do the problems on your own without assistance from any sources.

Make-up quizzes are permitted provided you have a valid documented excuse (e.g. doctors excuse for illness, official UF sanctioned event). Inform me as soon as you are able through Canvas (or direct email) if you will be missing a quiz. The make-up quiz must be taken within 3 weeks of the missed quiz (not within 3 weeks of the request for approval of the makeup). *There will be no make-up quizzes given after August 10, 2023. You also have until Thursday, August 10th to request any re-*

grade or to question any grade discrepancy pertaining to the quizzes. The quiz portion of the course will contribute 20 points to the total grade. **There is a forgiveness of 1 lowest score for the quizzes at the end of the semester.**

IN-CLASS PARTICIPATION

You are expected to attend all classes. In-class participation include iClicker problems and group problems, starting on May 17th. Each iClicker problem is worth 2 pts: 1 pt for participation, and 1 pt if answered correctly. Each group problem is worth 2 pts for participation. Both iClicker problems and group problem participation contribute 2.5 pts to the final grade. **The 4 iClicker problems and the 2 group problems are dropped when calculating the final grade.**

HOW TO SUCCEED IN THIS COURSE

For tips and suggestions on how to approach this class and the appropriate amount of work required to master the topics we'll be covering see the page: [How To Study For PHY2053](#)

UF POLICIES

ATTENDANCE POLICY

Please consult the official [University Policy for Attendance Links to an external site.](#), linked from the UF Registrar's web site.

ACADEMIC HONESTY

The UF Honor Code applies to all aspects of this course. It is required that you report any possible infractions to your instructor immediately.

Violations of the UF Honor Code, including any identified online homework related academic fraud, will be processed to the full extent of the Honor Code. If the Dean of Students Office confirms a first violation, the automatic minimum penalty will be a failing grade in the course. Otherwise, the student will be referred to the Director of Student Conduct and Conflict Resolution. According to the Honor Code, a student who receives a course grade penalty is not permitted to withdraw from the course.

All University of Florida students are required to abide by the [University's Academic Honesty Guidelines Links to an external site.](#) and by the Honor Code:

The Honor Pledge

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."

Full documentation about the honor code can be found at the following link: <https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/Links to an external site.>

ACCOMMODATING STUDENTS WITH DISABILITIES

Please message me ASAP to set up an appointment to hand in your letter (described below) and discuss your needs.

Students requesting classroom accommodation for disabilities must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation in printed format to the instructor when requesting an accommodation. You will need electronic ATR forms for exams and for quizzes. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

More information about the Disabilities Resource Center can be found at <https://www.dso.ufl.edu/drc> [Links to an external site.](#)

OTHER INFORMATION

OUTSIDE HELP SERVICES

The Teaching Center in Broward Hall (tel. 392-2010, teachingcenter.ufl.edu/tutoring/tutoring-schedule/ [Links to an external site.](#)) offers a range of free services, including individual tutoring in physics.

COUNSELING AND MENTAL HEALTH RESOURCES

Students facing difficulties completing the course or who are in need of counseling or urgent help should call the on-campus Counseling and Wellness Center (352-392-1575; <http://www.counseling.ufl.edu/cwc/> [Links to an external site.](#)).

ONLINE COURSE EVALUATION PROCESS

“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 at <https://gatorevals.aa.ufl.edu/students/> [Links to an external site.](#) 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 <https://ufl.bluera.com/ufl/> [Links to an external site.](#) Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/> [Links to an external site.](#)”

Information about the exams (chapters covered, times, allowed materials, etc.) can be found on the [Exams](#) page. **All dates are tentative at time of posting.**

Course Schedule and Calendar

On Sunday of each week, a new module will become available providing access to lecture videos, worked example videos, and a homework assignment (due eight days later on the following Monday at 9:00pm EDT), and a reading quiz. Further, an adaptive homework assignment may be offered for additional practice based on your total homework assignment score. Notice that we skip Quizzes 3, 6, 9 and 11 because they would have been on an exam week.

Week	Week Start Date (Sunday)	Module	Topics	Quiz
Unit 1: Kinematics and Newton's Laws				
1	5/14/23	0	Orientation, Introductions, and Math Review Available as Needed	Quiz 0 (Mechanics Survey)
		1	Units, Scientific Notation, and Standards, Motion Along a Straight Line <i>Reading: 1.1-1.6, 2.1-2.7, 3.1-3.2</i>	
2	5/21/23	2	Motion in a Plane <i>Reading: 3.1-3.3, 3.5, 3.6, 3.8</i>	Quiz 1 on HW 1
3	5/28/23	3	Force and Newton's Laws of Motion <i>Reading: 4.1-4.7, 5.3</i>	Quiz 2 on HW 2
EXAM 1: Unit 1, Modules 1-3 with Honorlock				
June 5, 2023 during Lecture Period				
Unit 2: Applied Newtons' Laws, Circular and Rotational Motion, and Equilibrium				
4	6/4/23	4	Application of Newton's Laws <i>Reading: 5.1-5.3, 5.5-5.8</i>	No quiz this week

5	6/11/23	5	Circular Motion and Gravity <i>Reading: 3.7, 6.1-6.6</i>	Quiz 4 on HW 4
6	6/18/23	6	Rotational Motion, Equilibrium, and Elasticity <i>Reading: 7.1-7.7, 8.1-8.5</i>	Quiz 5 on HW 5
EXAM 2: Unit 2, Modules 4-6 with Honorlock				
July 3th, during lecture period				
Unit 3: Energy, Momentum, and Fluids				
7	7/2/23	7	Energy and Work <i>Reading: 10.1-10.6, 10.10</i>	No quiz this week
8	7/9/23	8	Momentum <i>Reading: 9.1-9.7, 10.9</i>	Quiz 7 on HW 7
9	7/16/23	9	Fluids <i>Reading: Chapter 13</i>	Quiz 8 on HW 8
EXAM 3: Unit 3, Modules 7-9 with Honorlock				
July 24th, during lecture period				
Unit 4: Oscillations and Waves				
10	7/23/23	10	Oscillations <i>Reading 14.1-14.7</i>	No quiz this week

11	7/30/23	11	Waves, Sound And Interference <i>Reading: 15.1-15.7, 16.1-16.7</i>	Quiz 10 on HW 10
12	8/6/23	-	-	Quiz 12 (Mechanics Survey)
EXAM 4: Unit 4, and Cumulative with Honorlock				
August 7th, during lecture period				