

## PHY 2048 - Physics 1 with Calculus, Summer 2023

### Attention

This is a face-to-face class with lectures on **Monday, Wednesday, and Friday in NPB 1001 during period 3 (11am)**. Quizzes are completed in-person in discussion section meetings listed on your registration.

**We recommend waiting until after the first class before you purchase any course materials.** The textbook/homework system package is available via the UF All Access program. Due to the large number of students that we teach, we have been able to negotiate a greatly reduced price. Also, the university has paid for a license for iClicker, which we will be using for in-class responses. The rules for purchasing the textbook, registering for the homework system, and installing and registering your iClicker remote will be explained during the first lecture. There will also be step by step instructions on the Canvas [Start Here](#) page.

Please make sure to attend in person your assigned lecture to get vital information about the course and to get started learning the physics.

### Course Information

#### Instructor: TBD

**Contact information:** Please use Canvas email to contact your instructor. E-mail is not the best way to get answers to physics questions. Please use class and office hours to seek help on specific physics and homework questions.

**Teaching Assistants:** A complete list of teaching assistants, their contact information, and their office room number will be on Canvas in the Office Hrs + Disc Sect. tab.

**Meeting Times:** Consult One.UF to find your specific lecture time and room for discussion section. Everyone attends the NPB1001 lectures.

**Office Hours:** A complete list of office hours for both the instructors and the teaching assistants will be posted on Canvas. You can go to the office hours of any instructor or teaching assistant.

**Textbook:** *Fundamentals of Physics Volume 1 for UF*, by Halliday, Resnick, Walker (Wiley 12<sup>th</sup> edition). This is available through the UF All Access program. Details of the process will be given during the first class and are posted to Canvas. We have negotiated a reduced price from the publisher so this will be the lowest cost option.

**iClicker:** We will be using the iClicker software for in-class response to questions. UF has purchased a license for this software so there is no additional cost to you. Again, details on the process for installing the software and registering will be given during the first class and are posted to Canvas.

**Prerequisites:** MAC 2311; High school physics, PHY2020, or equivalent. Since high school physics classes vary widely in terms of depth and topics covered, we will be starting from scratch.

For those of you that have had a thorough high school physics class, the first part of the course will be a review; however, be careful. We will eventually be covering material that you have probably not seen in high school. For those students who have not had as much physics, don't worry. We will be starting

from scratch. You may have to work harder during the first part of the semester, but we will all end up at the same place at the end of the semester.

### **Course Description**

This is the first semester in our two semester introductory physics with calculus sequence. It covers Newtonian mechanics, as well as some topics in fluids, oscillations, and waves. The course is intended for science and engineering majors. It is a foundational course in the sense that the material introduced here will be used in many later science and engineering courses. Thus, it is important that you not just become familiar with the material but master the material so you can succeed in future courses and your career.

### **Course Structure**

Each lecture covers a specific set of sections in the textbook and will include problems worked out in detail. You will be asked to work out some problems during lecture and report your answer using iClicker for bonus points.

After lecture, you will be set to start the homework problems relating to the lecture and the sections covered in the book. Homework is submitted on-line and due on Saturdays at 10pm. This is your chance to learn and practice the material for yourself. Solutions to the problems are available after the due date in the homework system.

In your discussion section the following week you will take a quiz relating to the material in the homework. This is your chance to test your mastery of the material.

The order of lecture, homework, and quiz repeats every week. There are four exams, which will evaluate your mastery of the course material.

### **How To Do Well In This Class**

If you want to learn a particular sport, like basketball for example, you have to practice and play the game. You can't just watch others play the game, although you can learn things from watching other people play.

The same is true of physics. You can learn something by watching the instructors do problems, but ultimately you have to practice yourself. In this course the homework is where you practice. Your goal should not be to just get the right answers, but to learn and ultimately master how to do the problems.

**Tip #1:** Try to do the homework yourself first.

If you get stuck, review your notes and the textbook. If you are still stuck, consult with an instructor, a TA, the UF Teaching Center, Knack Tutoring, or one of your friends in the class. There is no point in staying spinning your wheels and making no progress. You can go to any of the office hours that we have per week (see Office Hrs + Disc. Sect. in Canvas). We can also recommend the [UF Teaching Center Links to an external site.](#) and [Knack Tutoring Links to an external site.](#)

**Tip #2:** After you get the right answer, go back and make sure you understand how and why you got the answer.

The homework is submitted numerically on-line with multiple attempts allowed. There is a tendency to just try stuff because you get multiple attempts. Also, the first time you do a problem, you may not do it in the most direct manner. A right answer does not necessarily mean mastery of the material.

The material in this course is cumulative, meaning that the material in week 1 is used in week 2, and the material in week 10 uses the material in weeks 1-9. Hence, you need to learn one topic before you can do the next one.

**Tip #3:** Work out the problems by writing each step down.

Early in the course the problems may be doable using just your calculator without writing anything down. Eventually this will not be possible. It is good to get in the habit of writing down your work. The instructors will model this in class. It is far easier to check your work once it is written down, than to have to redo a problem to check it.

**Tip #4:** Stay current in the course.

It will be more efficient to do a little homework after each lecture than to wait until Saturday to even look at the homework. Everyone is busy with lots of deadlines, but by doing a little work several times a week, you will actually spend less time overall on the homework because you are mastering the material as we go along.

**Tip #5:** Memorize or learn the process not the problem.

You will do over 100 homework problems, and there are many other practice problems to do if you want to. Nonetheless, the exam questions for this semester will not be identical to any of these problems. However, the thought process to do the problems in the exam will be identical to those used in the homework and the old exams.

This course is about problem solving, which means taking different pieces of information, in our case physical laws and equations, and putting them together to solve problems. Practicing scientists, engineers and medical doctors are valued for their ability to solve problems – not to look up information, which can be done with a computer search. Throughout the course we will emphasize problem solving.

#### **Minitips:**

1. Do at least 15 minutes of physics every day. It will help keep things fresh and let your subconscious work on absorbing the concepts.
2. Become familiar with the formula sheet and what the variables in each equation represent.
3. Analyze questions for the phrases/words that key you in to what concepts are relevant (problems at the back of the chapter in the book are good for this).

#### **Grades**

Your grade is determined by the following different kinds of assignments.

Assignment/Category	Points	Forgiveness factor
Exam 1	15	-
Exam 2	20	-
Exam 3	20	-
Final Exam	20	-
Homework	5	.8
Quizzes	20	.9
Total	100	
iClicker (extra credit)	5	.8

**Exams:** Exams are multiple choice with randomized questions and answers. **They are closed book and notes.** A formula sheet is included as part of the exam. You are allowed to use a calculator so long as it cannot store images or connect to the internet. No internet connected device is allowed at the exam. Thus, smart watches and cell phones must be put away. ***The following dates are tentative at time of posting.***

- Exam 1: 6/9
- Exam 2: 7/17
- Exam 3: 8/4
- Final Exam: 8/11

**Homework:** Weekly homework assignments of selected problems are due on Saturdays at 10pm EDT online via the Wiley Plus system. You will get five attempts for each problem and are allowed to seek help from the course teachers or other students in doing the problems. As indicated earlier understanding how to do the homework is the key to doing well in this course. There are no extensions or makeups for the homework due to technical issues such as losing your internet connection or forgetting to submit on time. Thus, do not wait until the last minute. We will divide your homework score by 0.8 to account for possible technical difficulties. The maximum percentage you can receive for the homework is 100% or 5 points after dividing by 0.8.

**Quizzes:** For most weeks there will be quizzes relating to the material covered in the previous week's homework assignment. The quizzes are given in discussion sections and typically last 20 minutes. We will divide your final quiz percentage by 0.9. This allows for some forgiveness such as doing particularly poorly during one quiz or missing a quiz due to an unexcused absence. The maximum percentage you can receive for quizzes is 100% or 20 points after dividing by 0.9.

Quizzes will be administered online via Canvas, but you must be in the discussion section to receive the access code. Quizzes are open book, open note, but closed collaboration. **Other than the class textbook, only notes written or typed by yourself are allowed.**

**iClicker:** After the drop/add period is over, lectures will generally have iClicker questions that count towards the iClicker bonus points. You will get one point for attempting the problem, and two points for getting it correct. Your final iClicker will be divided by 0.8 to allow for missing a class due to an unexcused absence or just missing a problem. There is no mechanism to give makeups for the iClicker bonus points. There is a maximum of 100% or 5 points after dividing by 0.8.

Letter grades are determined from your point score using the following table.

Grade	Range
A	> 85 points
A-	< 85 to 80 points
B+	< 80 to 75 points
B	< 75 to 70 points
B-	< 70 to 65 points
C+	< 65 to 60 points
C	< 60 to 55 points
C-	< 55 to 50 points
D+	< 50 to 45 points
D	< 45 to 40 points
D-	< 40 to 35 points
E	< 35 points

For information on how UF assigns grade points, visit <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/> [Links to an external site.](#)

### **Attendance and Missed Work**

Attendance of lectures and discussion sections is required and counts from the first class meeting. Acceptable reasons for absence include illness, serious family emergencies, special curricular requirements (e.g. judging trips, field trips, professional conferences), military obligation, severe weather conditions, religious holidays, court-imposed legal obligations, and participation in official

university activities such as music performances, athletic competition or debate. Excused absences must be documented. The documentation for foreseeable absences like official university activities should be submitted ahead of time.

Absences due to circumstances listed above during scheduled quizzes or exams will necessitate you to request a makeup quiz or makeup exam. Makeups are to be taken within one week of returning to class. Failure to do so will result in a zero for the assignment. Unexcused absences are not entitled to makeup assessments. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/> [Links to an external site.](#).

### **Disability Services**

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting <https://disability.ufl.edu/get-started/> [Links to an external site.](#) It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Requesting an accommodation letter to be sent to instructors via the course email address, [phy2048@phys.ufl.edu](mailto:phy2048@phys.ufl.edu), is sufficient for receiving accommodations, as long as the letter is received **at least three working days** prior to the deadline for assessments. Letters received less than three working days before the assignment deadline will have the accommodations applied for the next and subsequent assessments.

**Exams:** Students requesting accommodations on exams must complete the testing center ATR prior to the four-business day deadline, as described on the DRC website.

**Discussion Section Quizzes:** Students with less than 1.5x extended time may elect to take the quiz at the nominally scheduled time in discussion sections, inquire with your TA about these arrangements if it works for you. Alternatively, complete an ATR for a proctored quiz at the DRC. Students with accommodations of 2.0x or greater must complete an ATR for each quiz and submit before the testing center deadline. All ATRs for testing center quizzes must be scheduled on the same day as the student's discussion section meeting. The time of the appointment is your choice and may occur either before or after your discussion section meeting.

Accommodations are not retroactive; therefore, students should contact the DRC office as soon as possible in the term for which they are seeking accommodations.

Failure to send a current accommodation letter before the three working day deadline is not a permitted excuse for taking a makeup exam.

### **Academic Honesty Policy and Honor Code**

We go to great lengths to ensure that our Physics course is administered fairly, by setting clear goals (what is needed to attain each grade) at the outset, by providing materials (lectures, applets, homework, office hours, reviews) to help you reach those goals, and by assessing progress towards those goals using easily understood procedures (exams, quizzes, online homework). We pledge to do the best job we can to make the material understandable and to bring out the best in every student.

## Course Policy

Maintaining the integrity of the grading process demands fairness and compassion on our part and honor on your part. Accordingly, we take a very hard line on cheating in any form, including

1. Providing or copying answers on exams or quizzes
2. Taking an exam or quiz for another student
3. Entering online homework answers for another student
4. Distributing or copying exam or quiz questions
5. Obtaining course homework solutions or software algorithms from external sources, including websites or companies that give away or sell such solutions or algorithms.

*Any person caught cheating in any form will fail the entire course automatically and will be subject to Honor Court penalties.* Furthermore, we expect students to not tolerate cheating of any kind and to report incidents to your instructors.

## Honor Code

The [Dean of Students Office website Links to an external site.](#) has a detailed discussion about academic honesty and the University of Florida Honor Code, which was adopted by the Student Council. The Honor Code says

*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity. 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."*

## Online Course Evaluation

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

## Campus Resources and Student Success

### Health and Wellness

*U Matter, We Care:*

If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) or 352 392- 1575 so that a team member can reach out to the student.

*Counseling and Wellness Center:* <http://www.counseling.ufl.edu/cwc/Default.aspx> [Links to an external site.](#), 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

*Sexual Assault Recovery Services (SARS) Student Health Care Center,* 392-1161.

*University Police Department,* 392-1111 (or 9-1-1 for emergencies). <http://www.police.ufl.edu/Links to an external site.>

*UF Student Success : For improving study skills to connecting with a peer tutor, peer mentor, success coach, academic advisor, and wellness resources, go to* <http://studentsuccess.ufl.edu>[Links to an external site.](#)

### **Academic Resources**

*E-learning technical support,* 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml> [Links to an external site.](#).

*Career Resource Center,* Reitz Union, 392-1601. Career assistance and counseling. <http://www.crc.ufl.edu/Links to an external site.>

*Library Support,* <http://cms.uflib.ufl.edu/ask> [Links to an external site.](#). Various ways to receive assistance with respect to using the libraries or finding resources.

*Teaching Center,* Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. <http://teachingcenter.ufl.edu/Links to an external site.>

*Writing Studio,* 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/Links to an external site.>

*Student Complaints:* [https://www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf)

- Schedule
- 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.**

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 11:00pm EDT).

Exams are held during the class time scheduled for synchronous meetings. Please note that Florida observes Daylight Savings Time.



Quizzes are scheduled to occur during discussion section meetings, except during weeks noted in the calendar below. You will have a quiz during week 1, which will serve as a diagnostic quiz. You will receive details in a course announcement.

<b>Module</b>	<b>Week Starting</b>	<b>Exams</b>	<b>Topics</b>
0	Always Available		<b>Orientation, introductions, and math review</b> <i>Reading: 1.1-1.3; Appendix D and E</i>
1	5/15/23		<b>Motion in 1 Dimension</b> <i>Reading: 2.1 - 2.7</i>
2	5/22/23		<b>Vectors and 2D Motion</b> <i>Reading: 3.1-3.3, 4.1-4.7</i>
3	5/29/23		<b>Forces</b> <i>Reading: 5.1-3, 6.1-3</i>
4	6/5/23	Exam 1 (Mod 1-3) 6/3/20	<b>Work and Energy</b> <i>Reading: 7.1-6, 8.1-5</i>  <b>No quiz this week</b>
5	6/12/23		<b>Momentum</b> <i>Reading: 9.1-9.6</i>
6	6/19/23		<b>Rotational Motion and Dynamics</b> <i>Reading: 10.1-9, 11.1-4</i>

**Summer Break**

7	7/3/23	Exam 2 (Mod 4-6) 7/8/20	<b>Equilibrium</b> <i>Reading: 12.1-5</i> <b>No quiz this week</b>
8	7/8/23		<b>Gravitation</b> <i>Reading: 13.1-6</i>
9	7/17/23		<b>Fluids</b> <i>Reading: 14.1-3</i>
10	7/24/23	Exam 3 (Mod 7-9) 7/29/20	<b>Oscillations</b> <i>Reading: 15.1-7</i> <b>No quiz this week</b>
11	7/31/23		<b>Waves</b> <i>Reading: 16.1-7, 17.1-7</i>
12	8/7/23	Exam 4 (Mod 10-11; cumulative) 8/14/20	<b>Final Quiz this week</b> <b>The deadline for makeup quizzes is August 13 at 11:59PM EDT</b>