

PHY2048 - Physics 1 with Calculus

Syllabus for Spring 2020

This syllabus contains basic information about the course policies and organization. For complete information including assignments, course calendar and announcements, visit the course ELearning (Canvas) page.

Catalog description

The first of a two-semester sequence of physics for scientists and engineers. The course covers Newtonian mechanics and includes motion, vectors, Newton's laws, work and conservation of energy, systems of particles, collisions, equilibrium, oscillations and waves. (P) Credits: 3

Prerequisites: (1) High school physics, PHY 2020 or the equivalent; (2) MAC 2311 (Calculus and analytic geometry I); (3) Coreq: MAC 2312 (calculus and analytic geometry II).

Warning: Note the catalog cites high school physics as a *prerequisite*. Although this is an introductory course in physics, we will move quickly through a large amount of material. It will likely be very difficult for students who have not previously taken physics.

Implicit in the math prerequisites for this course are the following mathematical skills: Algebra; Trigonometry; Analytic Geometry; Vectors; Calculus 1; Calculus 2 (corequisite). (Further details are in Appendix E of the textbook.) If you are not comfortable and competent using these skills then you do not really meet the prerequisites, and you should take an appropriate refresher course(s) before taking this class. To do otherwise will likely be disastrous.

Instructors

This course consists of lectures given in a large auditorium and discussion sections held in smaller classrooms. Discussion sections will be led by a team of graduate teaching assistants. The auditorium lecturers are:

Prof. D. E. Acosta
Office: NPB 2035
Phone: 352-846-3144

Prof. S. J. Hagen
Office: NPB 2362
Phone: 352-392-4716

Prof. J. J. Hamlin
Office: NPB 2263
Phone: 352-392-4947

You will find the contact information and section assignments for the graduate teaching assistants on Canvas. Office hours for all instructors (lecturers and discussion section leaders) are also given on Canvas. Outside of the classroom, the best way to contact the lecturers is to attend their posted office hours or to send email to **phy2048@phys.ufl.edu**. Kindly do not send email to the lecturers at their individual email accounts.

Course objectives and goals

PHY2048 is a calculus-based introduction to general physics, Part I. Topics covered include basic equations of motion, concepts of force and torque, linear and angular momenta, work, kinetic and potential energy. We will consider point-like and finite-size objects, as well as fluids. We will discuss such periodic phenomena as oscillations and waves. Gravitation, one of the four fundamental forces of nature, is also covered in this course.

Our goal at all times is to help you understand the basic physical principles so that you can apply them to real situations. In addition to providing the basic theoretical underpinnings to the subject, we use many examples, "concept problems," physical demonstrations and virtual demonstrations. We also show many examples of everyday tools and advanced instruments that utilize these principles.

Schedule of lectures and readings

The complete schedule of lecture topics is available on Canvas.

Examinations

There will be three examinations: two midterms and a final. The final examination is comprehensive. These are assembly exams, which will be administered outside of regular class time, and located in different classrooms across campus. Please mark your calendar for the following dates and times:

Exam I	8:20-10:10 pm	Friday February 14, 2020
Exam II	8:20-10:10 pm	Wednesday March 25, 2020
Final Exam	10:00 am - 12:00 pm	Tuesday Apr 28, 2020

Room locations will be announced closer to the exam date. Note that the final exam is a *morning exam* (UF exam group 28B). If you have a conflict with one of these exams, please read the UF Policy for exam conflicts before contacting the instructors.

Grades, Points, and Make-ups

Your final letter grade is based on your total points earned, out of a possible total of 100 points as follows:

- 25 points - Exam I
- 25 points - Exam II
- 25 points - Final Exam
- 5 points - HW (Assigned online weekly through WileyPLUS. HW0 does not count for credit)
- 20 points - Quizzes (Given weekly in Discussion Section)
- 5 bonus points - HITT (in class) quizzes
- 0.5 bonus points - Syllabus quiz

Information about the components of your grade, and instructions for requesting make-ups for missed exams and quizzes, are provided at the Canvas page. Note that makeups for missed homework assignments are not provided. Quiz makeups may be provided in the event of absences that fall under the UF class attendance policy: read the policy and talk with your Discussion TA. Keep in mind that you may not need any makeup for missed homework or quizzes, as we will drop your lowest quiz grade and your two lowest homework grades.

Quiz and homework grades are finalized during the UF reading period, which immediately follows the last classroom lecture. Any quiz makeups due to excused absences etc., any adjustments to Discussion section grades, and any other concerns related to your semester grades must be resolved *before the start of reading period*. There will be no quiz makeups or modifications to course grades after the last day of classes.

Final letter grade

The minimal scores (out of 100 points) to ensure a particular letter-grade are shown below. For example, any student who earns 85 or higher is assured an A. *However, scores will not be rounded.*

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

The UF policy for assigning grade points can be found here:
<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

Textbook and other materials

DO NOT buy any textbook or other materials until you have read the following very carefully.

This course has a required textbook, *Fundamentals of Physics*, 11th Edition, by Halliday, Resnick, and Walker (published by Wiley in 2018). In addition the homework grade in this course is earned online through the WileyPLUS system (accessed through Canvas), and bonus points can be earned during lecture period using an HITT remote (“clicker”) device. Therefore you will require access to the following *before* the end of the first week of class.

- The textbook *and* a WileyPLUS homework passcode
- HITT remote control

UF has a deal that allows you to purchase the online version of the textbook with a WileyPLUS homework passcode for a total of \$50 for the semester, billed directly to your UF account. This combined access is available through the UF All Access Textbook Program. There is a long version of the directions available on the course Canvas page, or here. Simply put, you will

- Go to
<https://www.bsd.ufl.edu/G1CO/IPay1f/start.aspx?TASK=INCLUDED>
- Once you log in with your GatorLink username and password, select Opt-In for this course. The book and code will be billed to your UF account for \$50.
- Your WileyPLUS code will allow you to access the online homework system through Canvas. Full instructions are on Canvas. *Do not attempt* to access WileyPLUS through Wiley’s own website.
- Once you have obtained the HITT (“clicker”) device, you must set it up for classroom use. Follow the directions that are posted on Canvas.

Calculators and formula sheets

Students may bring a handheld calculator to any PHY2048 exam. Four-function, scientific and/or graphing calculators are permitted. However the device must be a calculator only, not some other type of device (such as a cell phone, laptop, iPad) that has further capabilities such as file storage, software applications,

or communication (wifi, bluetooth, cellular, ...). Calculators may not be shared.

A formula sheet will be provided on each exam. Your Discussion TA will provide a formula sheet during each quiz. Students can view representative formula sheets by downloading prior year exams, which are posted on Canvas.

Accommodations for students with disabilities

Consistent with UF Policy, a student who desires accommodation for a disability must first present the instructor with an accommodation letter from the UF Disability Resource Center (UF-DRC)). The student can request such a letter by contacting the UF-DRC at 352-392-8565. The student should provide the letter to the instructor as early as possible in the semester, as testing/quiz accommodations must be scheduled *well in advance* of testing/quiz dates.

Academic honesty

Students are expected to hold themselves to a high standard of academic honesty. Every student at the University of Florida has agreed to adhere to the UF Honor Code and the Student Conduct Code, which includes adherence to 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 Student 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."*

As explained by the Dean of Students Office, violations of the Honor Code include cheating, providing false or misleading information, interfering with an academic activity, plagiarism, making unauthorized recordings, taking or receiving materials improperly, as well as complicity in violation of the code. Such behaviors in PHY2048 will lead to a disciplinary process through the Dean of Students Office. A student who has questions or concerns about academic honesty, or who becomes aware of a violation of the Student Honor Code, should consult with a course instructor.

Course evaluations

UF students are expected to provide professional and respectful feedback on the quality of instruction by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at this link. 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 through this link. Summaries of course evaluation results are publicly available at this link.

Additional campus resources

- UF Counseling and Wellness Center: <https://counseling.ufl.edu>, 352-392-1575.
- University Police Department: 352-392-1111. In an emergency dial 911.
- U Matter We Care - If you or a friend is in distress, please contact umatter@ufl.edu or 352-392-1575, so that a team member can reach out to the student.