

Syllabus

PHY2053 – Physics 1 General Education P – Spring 2024

This syllabus contains the basic outline of the course organization. For complete details on the course policies, please visit the course Canvas page.

Instructor Contact Information

Instructors (TAs TBA)	Office	Phone
Prof. Katia Matcheva	NPB 2112	(352) 846-2548
Prof. Kathryn McGill	NPB 2073	(352) 392-0286

E-mail: phy2053@phys.ufl.edu (use this email for all communications with instructors)

Office Hours

Office hours for the instructors and discussion section leaders will be detailed on the course Canvas page by the first day of classes, 1/8/24.

Category

[General Education State Core](#) Category: Natural Sciences

UF General Education Subject Area Objectives: [Physical Sciences \(P\)](#)

A minimum grade of C is required for general education credit.

Course Objectives and Goals

PHY2053 is the first semester of algebra-based introductory physics (“Physics 1”). 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.

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. At the end of the semester students will be able to (general knowledge/skill assessed; assessment method):

- **Analyze** particular physical situations, and thus identify the fundamental principles pertinent to those situations (content; homework, quizzes, exams).

- **Apply** fundamental principles to formulate mathematical equations describing the relation between physical quantities in these particular situations (critical thinking; homework, quizzes, exams).
- **Solve** mathematical equations to find the values of physical quantities (critical thinking; homework, quizzes, exams).
- **Communicate** unambiguously both the principles that apply to a situation and the results of specific calculations resulting from the steps above (communication, quizzes).

Prerequisites

- **Algebra, Trigonometry**

The course will rely heavily on trigonometry, solving systems of equations, and using variables. If you are not competent at this level you should take the appropriate refresher course(s) before taking this class; otherwise, you will struggle to succeed.

Required material

The following material should be acquired as soon as possible

- **UF All-Access which includes the e-Text and homework system**

The textbook for the course is *College Physics: A Strategic Approach 4e* by Knight, Jones, and Field. The electronic version is hosted on RedShelf; an access code is included in the UF All-Access purchase. The homework in this course is done online using the Expert TA system. An access code is included in the UF All-Access purchase.

- **iClicker software installed**

You must be registered using your ufl.edu gatorlink ID. If you use an external email address iClicker will be unable to match you in the gradebook.

Course Schedule

The complete course schedule is available on the Canvas page. Note that Exams 1 and 2 are evening assembly exams, whereas the Final Exam is at the time set by the registrar during Finals Week. **Exams 1 and 2 have not yet been scheduled by the Registrar.**

Week	Date	Day	Class Schedule	Assigned Reading (pp.)	Activities
1	1/8/2024	Monday	Classes Start		
	1/9/2024	Tuesday	Course Introduction	None.	
	1/10/2024	Wednesday			
	1/11/2024	Thursday	Units, Scientific Notion	1.1-1.7 (pp. 5-24)	
	1/12/2024	Friday			HW0 Due (Practice)
	1/13/2024	Saturday			
	1/14/2024	Sunday			
2	1/15/2024	Monday	(Holiday: MLK Jr. Day)		Week of Quiz 0 (Practice)
	1/16/2024	Tuesday	Representing Motion	2.1-2.4 (pp. 33-47)	
	1/17/2024	Wednesday			
	1/18/2024	Thursday	1D Motion	2.5-2.7 (pp. 47-59)	
	1/19/2024	Friday			HW1 Due
	1/20/2024	Saturday			
	1/21/2024	Sunday			

Week	Date	Day	Class Schedule	Assigned Reading (pp.)	Activities
3	1/22/2024	Monday			Week of Quiz 1
	1/23/2024	Tuesday	Vectors, 2D Motion	3.1-3.4 (pp. 72-85)	
	1/24/2024	Wednesday			
	1/25/2024	Thursday	Projectile Motion, Relative Velocity	3.5-3.6; 3.8 (pp. 85-90; 93-94)	
	1/26/2024	Friday			HW2 Due
	1/27/2024	Saturday			
	1/28/2024	Sunday			
4	1/29/2024	Monday			Week of Quiz 2
	1/30/2024	Tuesday	Forces, FBDs, Newton's Laws	4.1-4.7; 5.3 (pp. 106-125; 138-141)	
	1/31/2024	Wednesday			
	2/1/2024	Thursday	Newton's Laws Problem Solving	4.1-4.7; 5.3; 5.4 (pp. 106-125; 141-142; 144-146)	
	2/2/2024	Friday			HW3 Due
	2/3/2024	Saturday			
	2/4/2024	Sunday			
5	2/5/2024	Monday			Week of Quiz 3
	2/6/2024	Tuesday	Friction, Tension	5.5; 5.7-5.8 (pp. 146-151; 157-163)	
	2/7/2024	Wednesday			
	2/8/2024	Thursday	Apparent Weight, Springs (End Exam 1 Material)	5.3; 8.3 (pp. 142-144; 252-254)	
	2/9/2024	Friday			HW4 Due
	2/10/2024	Saturday			
	2/11/2024	Sunday			
6	2/12/2024	Monday			Week of Exam 1 & Quiz 4
	2/13/2024	Tuesday	Uniform Circular Motion	3.7; 6.1-6.4 (pp. 90-92; 176-190)	
	2/14/2024	Wednesday			
	2/15/2024	Thursday	Gravity & Orbits	6.5-6.6 (pp. 190-195)	
	2/16/2024	Friday			HW5 Due
	2/17/2024	Saturday			
	2/18/2024	Sunday			
7	2/19/2024	Monday			Week of Quiz 5
	2/20/2024	Tuesday	Rotational Kinematics, Torque	7.1-7.4 (pp. 206-223)	
	2/21/2024	Wednesday			
	2/22/2024	Thursday	Rotational Dynamics	7.5-7.7 (pp. 223-232)	
	2/23/2024	Friday			HW6 Due
	2/24/2024	Saturday			
	2/25/2024	Sunday			

Week	Date	Day	Class Schedule	Assigned Reading (pp.)	Activities
8	2/26/2024	Monday			Week of Quiz 6
	2/27/2024	Tuesday	Equilibrium	5.1; 8.1-8.2; 8.5 (pp. 135-138; 245-251; 258-261)	
	2/28/2024	Wednesday			
	2/29/2024	Thursday	Elasticity	8.4 (pp. 255-258)	
	3/1/2024	Friday			HW7 Due
	3/2/2024	Saturday			
	3/3/2024	Sunday			
9	3/4/2024	Monday			Week of Quiz 7
	3/5/2024	Tuesday	Work & Energy	10.1-10.4 (pp. 310-324)	
	3/6/2024	Wednesday			
	3/7/2024	Thursday	Energy Conservation & Power	10.6; 10.10; 11.1 (pp. 327-331; 341-343; 355-358)	
	3/8/2024	Friday			HW8 Due
	3/9/2024	Saturday	Spring Break		
	3/10/2024	Sunday	Spring Break		
10	3/11/2024	Monday	Spring Break		
	3/12/2024	Tuesday	Spring Break		
	3/13/2024	Wednesday	Spring Break		
	3/14/2024	Thursday	Spring Break		
	3/15/2024	Friday	Spring Break		
	3/16/2024	Saturday	Spring Break		
	3/17/2024	Sunday			
11	3/18/2024	Monday			Week of Quiz 8
	3/19/2024	Tuesday	Momentum & Impulse, Momentum Conservation	9.1-9.4 (pp. 279-291)	
	3/20/2024	Wednesday			
	3/21/2024	Thursday	Collisions, Explosions (End Exam 2 Material)	9.4-9.6; 10.9 (pp. 291-295; 339-341)	
	3/22/2024	Friday			HW9 Due
	3/23/2024	Saturday			
	3/24/2024	Sunday			
12	3/25/2024	Monday			Week of Exam 2 & Quiz 9
	3/26/2024	Tuesday	Angular Momentum	9.7 (pp. 295-298)	
	3/27/2024	Wednesday			
	3/28/2024	Thursday	Fluid Statics	13.1-13.3 (pp. 442-454)	
	3/29/2024	Friday			HW10a & 10b Due
	3/30/2024	Saturday			
	3/31/2024	Sunday			
13	4/1/2024	Monday			Week of Quiz 10
	4/2/2024	Tuesday	Fluid Dynamics	13.4-13.7 (pp. 454-468)	

Week	Date	Day	Class Schedule	Assigned Reading (pp.)	Activities
	4/3/2024	Wednesday			
	4/4/2024	Thursday	Simple Harmonic Motion	14.1-14.6 (pp. 485-504)	
	4/5/2024	Friday			HW11a & 11b Due
	4/6/2024	Saturday			
	4/7/2024	Sunday			
14	4/8/2024	Monday			Week of Quiz 11
	4/9/2024	Tuesday	Traveling Waves	15.1-15.4 (pp. 519-531)	
	4/10/2024	Wednesday			
	4/11/2024	Thursday	Loudness, Doppler Effect	15.5-15.7 (pp. 531-540)	
	4/12/2024	Friday			HW12 Due
	4/13/2024	Saturday			
	4/14/2024	Sunday			
15	4/15/2024	Monday			Week of Quiz 12
	4/16/2024	Tuesday	Standing Waves	16.1-16.4 (pp. 550-563)	
	4/17/2024	Wednesday			
	4/18/2024	Thursday	Hearing, Interference, Beats	16.5-16.7 (pp. 563-570)	
	4/19/2024	Friday			HW13 Due
	4/20/2024	Saturday			
	4/21/2024	Sunday			
16	4/22/2024	Monday			Week of Quiz 13
	4/23/2024	Tuesday	Final Exam Review	None.	
	4/24/2024	Wednesday			
	4/25/2024	Thursday	Reading Day		
	4/26/2024	Friday	Reading Day		
	4/27/2024	Saturday			
	4/28/2024	Sunday			
17	4/29/2024	Monday			
	4/30/2024	Tuesday	Final Exam: 7:30 - 9:30 am	Cumulative	Final Exam

Grading

Please visit the course Canvas page for a complete description of the grading policy for exams, homework, quizzes, and iClicker questions.

Your final score (100 points max) is the sum of the following:

- **3 exams:** up to 25 points each, 75 points total
- **13 approx. weekly HW assignments (drop 2 lowest scores):** 5 points combined
- **13 approx. weekly discussion session quizzes (drop 1 lowest score):** 20 points combined
- **iClicker points during lectures (20% forgiveness) + Reflection/Review assignments:** 2.5 *bonus* points
- **Group Work Participation points during discussion section (drop 2 lowest scores):** 2.5 *bonus* points

Note: In case of cancellation of classes due to unforeseen circumstances, the number of HW and quiz assignments might be adjusted, while the maximum number of points earned in each category stays the same.

Total minimal scores ensuring a particular letter-grade are shown below. In other words, if everyone gets 85 or more, everyone gets an “A”. *Do not expect scores to be curved.*

Letter Grade	Points Earned
A	≥85
A-	≥80
B+	≥75
B	≥70
B-	≥65
C+	≥60
C	≥55
C-	≥50
D+	≥45
D	≥40
D-	≥35
E	<35

Class Attendance & Makeups

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/ugrad/current/regulations/info/attendance.aspx>

Further details of the conditions for make-ups are described on the course Canvas page.

Accommodations for Students with Disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://disability.ufl.edu/>) by providing appropriate documentation. Once registered, students will receive an accommodation document that must be sent to phy2053@phys.ufl.edu when requesting accommodation. Students should follow this procedure as early as possible in the semester.

UF Grading Policies

Information on current UF grading policies for assigning grade points can be found here:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

Online Course Evaluation

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at: <https://ufl.bluera.com/ufl/>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://gatorevals.ua.ufl.edu/public-results/>.

The Honor Pledge

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 honor 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 Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) 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.”

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 or (352) 392- 1575 so that a team member can reach out to the student.
- [Counseling and Wellness Center](#): 392-1575; and the University Police Department: (352) 392-1111 (or 9-1-1 for emergencies).
- *Sexual Assault Recovery Services (SARS)* Student Health Care Center, (352) 392-1161.
- [University Police Department](#), (352) 392-1111 (or 9-1-1 for emergencies).
- [UF Student Success](#):
 - For improving study skills to connecting with a peer tutor, peer mentor, success coach, academic advisor, and wellness resources.

Academic Resources

- [E-learning technical support](#), (352)-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.
- [Career Resource Center](#), Reitz Union, (352) 392-1601. Career assistance and counseling.
- [Library Support](#), various ways to receive assistance with respect to using the libraries or finding resources.
- [Teaching Center](#), Broward Hall, (352) 392-2010 or (352) 392-6420. General study skills and tutoring.
- [Writing Studio](#), 302 Tigert Hall, (392) 846-1138. Help brainstorming, formatting, and writing papers.
- [Student Complaints](#)