

PHYS 101: How Things Work I – Fall 2020

Instructor Information:

Instructor:	Dr. Nau Raj Pokhrel, Department of Physics & Astronomy
Office:	611 Nielsen Physics Building
Email:	npokhrel@utk.edu or, via the Canvas message system
Class:	Synchronous Lecture via Zoom
Class Time:	Tuesday and Thursday, 9:50 – 11:05 AM
Office Hours:	Tuesday from 11:30 am to 12:30 pm (or by email appointment)
Communication:	The majority of classroom communication will be conducted via the Zoom and Canvas site for this class. To ensure prompt response from me, follow the email policy:

- Please put **“PHYS 101”** in the subject line of all course related emails. This practice will help me identify course related emails and respond promptly.
- You can expect up to a 24-hour delay in responding to emails; I will try to minimize such delays, but do not email me on the evening an assignment is due or before an exam expecting an immediate response.
- Before emailing me with questions about the course, please ensure that the information is not already provided in the course syllabus or on Canvas.

Course Description & Goals:

Physics 101 is a 3 credit-hour introductory physics course without laboratory developed for students with majors outside science. **The course doesn't have any pre/corequisites.**

The course will cover the topics: laws of motion, mechanical objects, fluids, heat & thermodynamics, and mechanical waves (chapters 1 through 9 of the textbook).

Course learning outcomes:

1. Students will demonstrate the ability to describe fundamental principles and chief discoveries through appropriate use of the basic vocabulary of a course's discipline.
2. Students will demonstrate the ability to identify the scientific dimensions of contemporary issues.

Textbook/Resources:

WileyPLUS inclusive access from VitalSource Bookshelf for **How Things Work: The Physics of Everyday Life** (6th Ed) by Louis A. Bloomfield

For registering with WileyPLUS, please follow **VitalSource Bookshelf** tab on the left sidebar in Canvas. For details, please follow the instruction provided in this YouTube link.

<https://youtu.be/5HpBeu3G6gQ>.

The textbook is included with the access. If you prefer reading eText/online material, you don't need a physical copy of the book.

Class Schedule: The following is a class schedule along with lecture topics, assignments etc. This is a tentative schedule, and might differ as our class speed. We will discuss in the class if there are any changes, and notices made in the classes/announcements supersede the schedule.

PHYS 101 Fall 2020 Class Schedule

First day of the Class August 20, Thursday

Day	Week	Chapters 1-9	Topics	HW
20-Aug	1	Chapter 0/1.1	Laws of Motion, Part 1: Skating	Exercise -1, HW problems -1, Adaptive Practice 1
25-Aug	2	Chapter 1.2	Falling Balls	
27-Aug		Chapter 1.3	Ramps	
1-Sep	3	Chapter 2.1	Laws of Motion, Part 2: Seesaws	Exercise -2, HW problems -2, Adaptive Practice 2
3-Sep		Chapter 2.2	Wheels	
8-Sep	4	Chapter 2.3	Bumper Cars	
10-Sep		Chapter 3.1	Mechanical Objects, Part 1: Spring Scales	Exercise -3, HW problems -3, Adaptive Practice 3
15-Sep	5	Chapter 3.2	Ball Sports: Bouncing	
17-Sep		Chapter 3.3	Carousels and Roller Coasters	
22-Sep	6	Exam I Review		
24-Sep		Exam I	Chapters 1, 2, 3	
29-Sep	7	Chapter 4.1	Mechanical Objects, Part 2: Bicycles	Exercise -4, HW problems -4, Adaptive Practice 4
1-Oct		Chapter 4.2	Rockets and Space Travel	
6-Oct	8	Chapter 5.1	Fluids: Balloons	Exercise -5, HW problems -5, Adaptive Practice 5
8-Oct		Fall Break		
13-Oct	9	Chapter 5.2	Water Distribution	Exercise -6, HW problems -6, Adaptive Practice 6
15-Oct		Chapter 6.1	Fluids and Motion: Garden Watering	
20-Oct	10	Chapter 6.2	Ball Sports: Air	
22-Oct		Chapter 6.3	Airplanes	
27-Oct	11	Exam II Review		
29-Oct		Exam II	Chapters 4, 5, 6	
3-Nov	12	Chapter 7.1/7.2	Heat and Phase Transitions: Woodstoves/Water, Steam, and Ice	Exercise -7, HW problems -7, Adaptive Practice 7
5-Nov		Chapter 7.3	Clothing, Insulation, and Climate	
10-Nov	13	Chapter 8.1	Thermodynamics: Air Conditioners	Exercise -8, HW problems -8, Adaptive Practice 8
12-Nov		Chapter 8.2	Automobiles	
17-Nov	14	Chapter 9.1	Resonance & Mechanical Waves: Clocks	Exercise -9, HW problems -9, Adaptive Practice 9
19-Nov		Chapter 9.2/9.3	Musical Instruments/ The Sea	
24-Nov	15	Final Exam Review		Extra-Credit HW (Optional)
26-Nov		Thanksgiving Holiday		
	16	Study Period		
3-Dec		Final exam	Cumulative (Chapters 1-9)	

Clicker Information: *We will be using the clickers in almost all lectures, so, make sure you have the app and it is ready by Monday's class.* You can visit the UTK OIT website (<https://help.utk.edu/kb/index.php?func=show&e=2784>) for further instructions. The link is posted on the Modules section as well. Note that **you have to use your UTK email ID** to register otherwise your score won't be integrated into Canvas and won't be registered. So, do not use non-UTK email addresses to register your clicker.

Grading & Evaluation:

Clicker Quizzes & Discussion Participation: In the class meeting, you will be responding quizzes at the end of the lecture. Clicker response grade is divided equally to participation (50%) and the correct response (50%). Your participation in discussion forum on canvas also includes the participation grade.

Homework Assignments: You will be assigned homework on WileyPlus. The assignments will be due on the indicted due date.

Midterm Exams: There will be two midterm tests on canvas. The tentative dates for the midterms are indicated on the schedule. ***Please note that these dates are subject to change as we progress through the course material but they will be finalized at least a week prior so that you can plan accordingly.*** Each midterm exam will be 60 minutes in length.

Final Exam: The final exam will be available on Wednesday, December 2nd on Canvas. If you determine that you have a conflict with that time or have three or more exams scheduled on that day, please let me know as soon as possible. The Final Exam will be two hours in length and cumulative in scope, covering chapters 1 to 9 of the textbook.

A formula-sheet will be available for each exam for a quick reference.

Grading Scheme:

Grades: Your grade is calculated based on many elements of the course. See the table below for details on this.

Course Element	%
Mid Term 1	15%
Mid Term 2	15%
Final Exam	30%
Homework	30%
In-class Quiz/Discussion Participation	10%
Total	100%

Letter grade will be obtained using the conversion below:

%	Grade
90% and above	A
87% - 89%	A-
83% - 86%	B+
80% - 82%	B
77% - 79%	B-
73% - 76%	C+
70% - 72%	C
67% - 69%	C-
63% - 66%	D+
60% - 62%	D
57% - 59%	D-

Other Information:

Class Rules: Students need to follow the following guidelines and class room etiquette in order to ensure a positive and respectful learning environment for everyone:

- **Please join the Zoom meeting on time:** don't make it a habit to join late. I will lock the meeting after certain time.
- **Be respectful:** Act in a matured/polite manner and be respectful of the learning process, your instructor, follow the guidelines for the Zoom meeting (See the rules posted on Canvas).
- **Raise your hand:** If you have a question or comment during the class, please raise your hand, or type on the chat-room on Zoom.
- **Share the air:** If you have been dominating the discussion or participating disproportionately, let others participate. Alternatively, if you haven't said much, you are encouraged to participate more.
- Please use **respectful and (socially) inclusive language.**

How to succeed and get a good grade in the class: The number of lecture hours in this class are not enough to cover all parts of the syllabus in detail. Hence reading assignments and home works are provided. A good portion of success in this class depends on coming class to prepared, actively participating during the class and completing home works as assigned.

- Please communicate with me on time if you have any questions so that we can work together for the success.
- Read the course material before coming to the class.
- In the class, participate actively and answer the clicker questions so you can earn your participation credit.
- Follow the class rules and behavior etiquette while in the class.
- Participate in the meeting ACTIVELY. Complete all the assignments on time.

Your Feedback/Suggestions on the course: You are encouraged to provide feedback on any aspect of the course all through the semester using any communication method you prefer. Your **grades will not be impacted by any feedback** you provide, they will be purely based on your coursework and lab work. However, your discretion in these matters is expected. You will also have an opportunity to give feedback at the end of the semester through the Course Evaluation System. Your feedback is critical in improving the course. Each year I take the information provided in feedback seriously so please take the time to fill out the feedback forms in a thoughtful manner.

Students with disabilities:

If you need course adaptations or accommodations because of a documented disability, please contact the Student Disability Services (SDS). This will ensure that you are properly registered for the services provided by SDS. *University Policy forbids me from making special accommodations without a letter from the Office of Student Disability Services.*

Disability Services Contact Information:

2227 Dunford Hall

Knoxville, TN 37996-4020

Phone: (865) 974-6087

Fax: (865) 974-9552

Email: sds@utk.edu

Website: <https://sds.utk.edu/>

For additional important information (Academic integrity, civility statement, UT alerts, COVID-19 procedures, ...) please see the Campus Syllabus ([Click here for Campus Syllabus](#)).