Fall 2021 Syllabus
PHYS 101: How Things Work

Instructor Information:

Instructor: Dr. Nau Raj Pokhrel

Office: 214 Nielsen Physics Building, UTK

Email: npokhrel@utk.edu or, via the Canvas message system

Phone: (865) 974-5697

Classroom: Nielsen 415

Class Time: Tuesday & Thursday from 9:50 AM to 11:05 AM

Office Hours: Tuesday from 2:30 PM to 4:00 PM (or by email appointment)

Communication: The majority of classroom communication will be conducted via the 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 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. If you don't get response after a couple of days or according to urgency, please resend the email.
- 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.

You will need the following resources for the course:

1. **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, you should already have received the **inclusive access** email from the Volshop to proceed). Follow the VitalSource Bookshelf link on the left sidebar. You might need to create the account if you already don't have one. **You don't need any access code.** You might get some help form this YouTube link. **https://youtu.be/5HpBeu3G6gQ**.
2. The textbook is included with the access. If you prefer reading eText/online material, you don't need a physical copy of the book.
3. **Turning Technologies (Clicker) Registration:** ***We will be using the clickers***

in almost all lectures, so, make sure you have the app, and it is ready by the first class.
Follow the link provided on Canvas Module to register your app. The link is posted on the Modules section as well. Note that **you must 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. For instructions in details, visit the UTK OIT website (https://utk.teamdynamix.com/TDClient/2277/OIT-Portal/KB/ArticleDet?ID=117398).

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 2021 Class Schedule (TR 9:50-11:05 AM)

First day of the Class August 19, Thursday

Day	Week	Chapter	Topics	HW
19-Aug	1	Chapter 0/1.1	Syllabus, Basic Physics Review, Laws of Motion	HW 1
24-Aug	2	Chapter 1.1	Laws of Motion	
26-Aug		Chapter 1.2	Falling Balls	
31-Aug	3	Chapter 1.3	Ramps	
2-Sep		Chapter 2.1	Laws of Motion, Part 2: Seesaws	
7-Sep	4	Chapter 2.2/2.3	Wheels, Bumper Cars	HW 2
9-Sep		Chapter 3.1	Mechanical Objects, Part 1: Spring Scales	
14-Sep	5	Chapter 3.1/ Review		
16-Sep		**Exam I**	**Chapters 1, 2**	HW 3
21-Sep	6	Chapter 3.2/3.3	Ball Sports: Bouncing, Carousels & Roller Coasters	
23-Sep		Chapter 3.3/4.1	Mechanical Objects, Part 2: Bicycles	
28-Sep	7	Chapter 4.1/4.2	Rockets and Space Travel	HW 4
30-Sep		**Fall Break**	**No Class**	
5-Oct	8	Chapter 4.2	Space Travel	
7-Oct		Chapter 5.1	Fluids: Balloons	HW 5
12-Oct	9	Chapter 5.2	Water Distribution	
14-Oct		Chapter 6.1/ Review		
19-Oct	10	**Exam II**	**Chapters 3, 4, 5**	HW 6
21-Oct		Chapter 6.1/6.2	Fluids and Motion: Garden Watering, Ball Sports: Air	
26-Oct	11	Chapter 6.2/6.3	Air, Airplanes	
28-Oct		Chapter 7.1/7.2	Heat and Phase Transitions: Woodstoves/Water, Steam, & Ice	
2-Nov	12	Chapter 7.3	Clothing, Insulation, and Climate	HW 7
4-Nov		Chapter 8.1/8.2	Thermodynamics: Air Conditioners/ Automobiles	
9-Nov	13	Chapter 8.2/9.1	Automobiles/ Waves basic	HW 8
11-Nov		Chapter 9.1	Resonance and Mechanical Waves: Clocks	
16-Nov	14	Chapter 9.2/9.3	Musical Instruments/ The Sea	HW 9
18-Nov		Course wrap-up/ Review		

23-Nov	15	**Exam III**	**Chapters 6, 7, 8**	
25-Nov		**Thanksgiving Day**	**Holiday**	
30-Nov	16	Final Review	Review Quiz	
2-Dec		**Study Day**	**No Class**	
6-Dec	**MON**	**Final Exam (3:30pm-5:30pm)**	**Cumulative (Chapters 1-9)**	

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%).

Homework Assignments: You will be assigned homework on WileyPlus which can be accessed via Canvas. The assignments will be due on the indicted due date on Canvas.

Midterm Exams: There will be THREE midterm tests, which will be held during the regular class time in classroom (Nielsen 415). 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 50 minutes in length.

Final Exam: The final exam will be given on **Monday, December 6th from 3:30pm to 5:30pm** in classroom (Nielsen 415). 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	12%
Mid-term 2	12%
Mid-term 3	12%
Final Exam	24%
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-

(Note: The instructor reserves the right, when necessary, to alter the grading policy, change examination dates, and modify the syllabus and course content. Modifications will be announced in class. Students are responsible for announced changes.**)**

Other Information:

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

- **Please arrive to the class on time:** don't make it a habit to join late.
- **Cell Phones/Technology**: Be respectful. Use of electronic devices for academic work is fine but use of electronic devices for other purposes is not. Turn off your cell phones when we are not using them in quizzes. While on the computers social networking is not allowed. Repeated abuse will result in being dismissed from that class and asked to return next week. No credit will be given for such dismissal.
- **Avoid side conversations**: The noise is distracting to other students, and you will impact the learning environment, so avoid private conversations in the classroom.
- **Be respectful:** Act in a matured/polite manner and be respectful of the learning process, your instructor, classroom, and your fellow students. Respect to the learning environment is projected in many ways including your body language e.g., do not put your feet/legs on the back of the seats in front of you.
- **Raise your hand:** If you have a question or comment during the class, please raise your hand.

- **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.**
- **Please be clear that**

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 homework 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 quiz/participation credit.
- Follow the class rules and behavior etiquette while in the class. Don't surf the internet or text with your friends.
- 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 the Campus Syllabus).