

**Ball State University**  
**Course Syllabus for General Physics 1 (PHYC 110)**  
**Sections 1 and 2**  
**Spring 2026**

**Lecture:** MWF, 10:00 AM – 10:50 AM, Cooper Science Building 401

**Lab:** Section 1: Tuesday, 12:00 PM – 1:50 PM, Cooper Science Building 415  
Section 2: Tuesday, 8:00 AM – 9:50 AM, Cooper Science Building 415

**Extra Problem Solving Help:** See PHYC 111 – Problem Solving in General Physics 1

**Instructor:** Dr. Michael J. Skoby  
mjaskoby@bsu.edu  
Office: CS 430B

**Office Hours (subject to change):**

Tuesday 2:30 PM – 3:30 PM  
Thursday 10:00 AM – 11:00 AM  
Friday 1:00 PM – 2:00 PM  
Or by appointment

**Catalog Description:**

Studies the laws of Newtonian mechanics. Introductory fluid statics and dynamics, heat and thermodynamics, and wave motion and sound. Recommended background: one year of college preparatory physics in high school. Prerequisite: MATH 112, trigonometry or appropriate trigonometry sub scores on mathematics placement exam or passing grade in high school physics. Parallel: PHYC 111 is recommended for students who have not attained the recommended background.

**Required Materials:**

*College Physics*, 11th Ed., by Serway and Vuille with WebAssign Access

**Course Learning Objectives:**

- Identify the basic physical laws in text and mathematical forms and relate them to the physical and life sciences and technology.
- Use algebra, trigonometry, and other basic math skills to derive analytical expressions for relating physical quantities.

- Interpret and analyze written physics problems including identification of pertinent facts, recognition of what is to be found, and application of physical laws to arrive at a conceptual or quantitative solution.
- Predict outcomes and conduct laboratory experiments to test those predictions.
- Perform laboratory work using scientific instruments to measure physical quantities.
- Apply error analysis methods to experimental data.
- Appropriately reduce laboratory data to meaningful form to find data patterns and make comparisons of results with theory.
- Write formal reports summarizing experimental work in the laboratory.

### Course Grading:

Your final grade will be weighted as follows:

2 Exams (20% each):	40%
Final Exam:	20%
Lab:	20%
Homework:	15%
In-class Exercises:	5%

Below is the grading scale. The letter grade thresholds may be lowered at the instructor's discretion, but the thresholds will not be raised. For example, if you get at least 90% you will be guaranteed to receive an A- or possibly better.

A	93-100%
A-	90-92%
B+	87-89%
B	83-86%
B-	80-82%
C+	77-79%
C	73-76%
C-	70-72%
D+	67-69%
D	63-66%
D-	60-62%
F	Below 60%

### Exams:

The material covered on an exam will be confirmed a week before the exam.

Final Exam: Wednesday, April 29 at 9:45 AM to 11:45 AM

## **Labs:**

You will perform experiments in groups of 2 and submit only one lab report per group. Each group member must equally contribute to completing the experiment and the lab report. Please be to the lab on time so that you don't miss any instructions and safety warnings given at the start of class. Lab reports are generally due before lab starts on the following week. Late lab reports will not be accepted. Each lab grade will be based on the following point distribution out of 25 points:

Cover Page: 3 pts  
Objectives: 2 pts  
Summary of Experiment: 5 pts  
Data and Results: 10 pts  
Conclusions/Questions: 5 pts

A template for the Cover Page will be provided on Canvas and the rest of the lab report must include the following sections.

### Objectives:

A brief and concise description of the goals of experiment (a sentence or two is usually sufficient).

### Summary of Experiment:

A brief summary of the experimental procedures and activities (what was measured and how it was done, and the basic ideas and equations that were used).

### Data:

A summary of the data measured and collected in the above activities.

### Results:

Present calculations and analysis on the data (show the formula used), as well as any qualitative observations.

It is also OK to combine the data and results sections.

### Conclusions:

Draw conclusions from the above experiment, observations, and results (were the objectives achieved, did you get what you expected, what were some sources of error).

### Additional Questions:

Answer and discuss any additional questions where applicable.

## **Homework:**

Homework problems will generally be assigned for each lecture and the due date will be given once all the problems for a homework set have been assigned. Late homework will not be accepted. You are encouraged to work on homework problems together, but you should not copy solutions from someone else. The homework problems are meant

to help prepare you for the exams; therefore, it is in your best interest to know how to solve them.

**In-class Exercises:**

You will be given time to attempt to solve physics problems or complete other exercises during class. Sometimes these exercises will be meant to prepare you for an upcoming lab. Please bring paper/pencil to class to show your work for in-class exercises and be prepared to hand it in at the end of class.

**Attendance:**

Students are expected to be present for the entirety of every lecture and lab. Only exceptional cases (e.g. illness), *for which you notify the instructor before missing class*, will be considered excused. You may be required to provide the instructor with documentation for an excused absence. Students who miss class are still responsible for homework assigned and all material covered in class.

**University Statement:**

We are committed to ensuring that all members of the community are welcome, through valuing the various experiences and worldviews represented at Ball State and among those we serve. We promote a culture of respect and civil discourse.

**Disability Statement:**

If you need course adaptations or accommodations because of a disability, please contact the instructor of record as soon as possible. Ball State's Disability Services Office coordinates services for students with disabilities; documentation of a disability needs to be on file in that office before any accommodations can be provided. Disability Services can be contacted at 765-285-5293 or [dsd@bsu.edu](mailto:dsd@bsu.edu).

**Academic Dishonesty:**

“To maintain its credibility and reputation, and to equitably assign evaluations of scholastic and creative performance, Ball State University is committed to maintaining a climate that upholds and values the highest standards of academic integrity.” Refer to the following BSU web site for more information:

<https://www.bsu.edu/about/administrativeoffices/vice-provost/student-services/academic-integrity>

**Disclaimer:**

This syllabus is subject to change.

## Tentative Course Schedule

Week	Dates	Lecture	Lab
1	Jan 5-9	Ch. 1: Units, Trigonometry, and Vectors	Lab 0: Introduction to Excel
2	Jan 12-16	Ch. 2: Motion in One Dimension	Lab 1: Measurement, Uncertainty, and Experimental Error
3	Jan 19-23	Ch. 3: Motion in Two Dimensions <b>No class on Monday (MLK Day)</b>	<b>No lab</b>
4	Jan 26-30	Ch. 4: Newton's Laws of Motion	Lab 2: Motion in Two Dimensions
5	Feb 2-6	Ch. 5: Energy	Lab 3: Forces and the Addition and Resolution of Vectors
6	Feb 9-13	Ch. 6: Momentum, Impulse, and Collisions"	<b>Exam 1 (during usual lab time)</b>
7	Feb 16-20	Ch. 7: Rotational Motion and Gravitation	Lab 4: Work, Energy, and Power
8	Feb 23-27	Ch. 8: Rotational Equilibrium and Dynamics	Lab 5: Ballistic Pendulum
9	Mar 2-6	<b>No class (Spring Break)</b>	<b>No lab</b>
10	Mar 9-13	Ch. 9: Fluids and Solids	Lab 6: Conservation of Momentum in Collisions
11	Mar 16-20	Ch. 10: Thermal Physics	Lab 7: Torque and Rotational Motion
12	Mar 23-27	Ch. 11: Energy in Thermal Processes	<b>Exam 2 (during usual lab time)</b>
13	Mar 30-Apr 3	Ch. 12: The Laws of Thermodynamics	Lab 8: Thermal Properties of Materials
14	Apr 6-10	Ch. 13: Vibrations and Waves	Lab 9: Simple Harmonic Motion
15	Apr 13-17	Ch. 14: Sound	Lab 10: Wave Motion and the Speed of Sound
16	Apr 20-24	Review	<b>No lab</b>
17	Apr 27-May 1	Review <b>Final Exam: Wednesday, April 29</b> @ 9:45 - 11:45 AM	<b>No lab</b>