

# Physics 101

## General Physics

### Spring 2022

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**Office:** SCI B103

**Office Hours:** Mon/Wed: 12:00-12:50 pm. Tues/Thr: 11:00-11:50am. Other times by appt.

**Text:** *The Physics of Everyday Phenomena*, Griffith and Brosing, 8<sup>th</sup> edition, McGraw-Hill

**Other required materials:** Scientific calculator (graphing capability is **not** necessary)

### Overview

This course is a broad introductory survey of a wide variety of physics topics. Topics include mechanics, energy and work, momentum, waves and oscillations, electricity and magnetism, and optics. Even though you may not pursue a career in physics, the lessons learned from studying physics will sharpen your reasoning skills and give you an in-depth understanding and appreciation of the physical world around you.

### **General Education Learning Outcomes (Natural Sciences) and Their Alignment with PHYS101**

Upon completing this course, students will be able to;

1. *Explain major concepts, methods, or theories in the natural sciences to investigate the physical world.*

By studying PHYS101, students learn the fundamental concepts of different fields of physics, including mechanics of motion, waves, electricity, magnetism and optics. Student also learn theories and methods used in these fields to explain how and why some natural phenomena occur.

2. *Interpret information, solve problems, and make decisions by applying natural science concepts, methods, and quantitative techniques.*

Students in PHYS101 use theoretical concepts to make quantitative predictions by solving various problems and verify them by making measurements in the lab.

3. *Describe the relevance of aspects of the natural sciences to their lives and society.*

By studying PHYS101, students learn about the applications of physical concept and their use in modern technology and will explore the explanation of everyday phenomena based on the physical concepts they learn.

### Attendance

Attendance is not recorded for the lectures, but it is highly recommended that you attend.

Regular attendance will help you learn the material and, thus, lead to better performance on homework, discussion handouts, laboratory exercises and exams. **Laboratory attendance is required to receive a laboratory grade.**

### Grading

Your grade will be composed from your work in the following three areas: Examinations, Discussion/Homework, and Laboratory.

## Examinations

Four examinations (including the final) will be given during the semester. The first 3 exams will be taken during a lab period. The fourth exam will be given during the final examination period. Although the exams are not comprehensive, they may necessarily require you to call on knowledge gained from an earlier exam.

## Homework and Discussions

A homework set of problems from the textbook will be assigned each week. The homework sets from the textbook will not be graded. A 'Turn-in' homework set will be posted with the lecture slides. The 'turn-in' problems will be graded.

Some assigned problems will be covered in detail in the discussion session. Discussion handouts will be sometimes be provided. To get maximum value out of the discussion class, you should attempt to work all assigned problems.

## Laboratory

Normally, labs are conducted twice a week. You will work in groups of 2 to 4 depending on the complexity of the lab and availability of equipment. At the end of each lab period your group should be able to turn in a lab report to the instructor. Labs will be posted on Canvas, and it is recommended that you read over the lab prior to coming to the laboratory. Laboratory handouts can be printed at the beginning of each laboratory session.

## Grades:

Grade Distribution	
Tests	4*10% =40%
Discussion/Homework	All =10%
Laboratory	25* 2%=50%
TOTAL	100%

Final grades will be determined from the total points as follows:

A	A-	B+	B	B-	C+	C	C-	D+	D	F
93.%-100%	90.%-92.9%	87.%-89.9%	83.%-86.9%	80.%-82.9%	77.%-79.9%	73.%-76.9%	70.%-72.9%	70.0%-65.9%	60.%-65.9%	Below 60%

**Canvas:** A great deal of information about this class will be posted on Canvas. Some of these items are: Scores from homework, exams, and labs, and your final grade.

Announcements: Such as deviations from the course calendar, quiz times, class cancellations, etc.

Solutions to some handouts, homework, exams

Some lecture notes, ... etc.

(Announcements and information will occasionally be emailed in addition to being posted on Canvas.)

**Note:** If you have any condition such as a physical or learning disability, which will make it difficult for you to carry out the work as outlined, or which will require academic accommodations, please notify the instructor and contact the [Office of Disability Services](#) during the first two weeks of the semester in order to request accommodation. A [Reasonable Accommodation Request-Report Form](#) is available online.