



## Welcome to General Physics I

PHY 2020 LE01

Fall 2025 Semester

### Course Meeting Information

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**Start Date:** 08/18/25

**End Date:** 12/06/25

**Class Meeting Times:** M (REC) - 07:30PM-08:20PM | M,W (LEC) - 06:00PM-07:15PM | W (LAB) - 07:30PM-10:20PM

**Class Location:** LARGO-CHES-305

#### **DELAYED COLLEGE OPENINGS:**

When the college announces a delayed opening, classes may be canceled, partially canceled or conducted remotely:

#### **Face-to-face classes:**

- May be held on campus if at least 45 minutes of class time remains at the time of the opening. For example, in the event of a 10 a.m. opening, a 9:30-10:45 a.m. class will be held. Classes with less than 45 minutes of class time remaining at the time of opening will be canceled for that day.
- May be held virtually (i.e., through video-conference). Classes that are held virtually will begin at the normally scheduled time.
- Instructors will share information regarding the class format in case of a delayed opening through Canvas and/or email.

#### **Structured remote (virtual) classes:**

- Structured remote classes are not impacted by delayed openings and will start on time in case of a delayed opening.

### **Online classes:**

- Online classes are not impacted by delayed openings and will continue as normal in case of a delayed opening.

### **CYBER DAY:**

In the event of inclement weather, national or local emergency, or special event, the college may declare a cyber day. On cyber days, all course formats will continue in a remote format. Students should consult their college email and learning management system (Blackboard/Canvas/Google Classrooms/or the like) for further information about the class meeting.

Students attending classes at non-campus locations (such as Prince George's County Public School sites) will follow the delayed openings procedures of that location.

Information about school closings and delayed openings can be found using PGCC's Owl Alert- the college's instant messaging and email notification system. To sign up for text alerts, go to [PGCC Owl Alert Registration](#).

### **CANVAS SITE:**

Access your Canvas course by logging into the student portal at <https://my.pgcc.edu> and then scroll down to My Canvas Courses and click that link.

## **Faculty Contact Information**

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David Simpson

**Department Phone Number:** (301) 546-0420

**Email:** [simpsodg@pgcc.edu](mailto:simpsodg@pgcc.edu)

**Webpage:** <http://www.pgccphy.net>

### **Bio/Introduction**

- Ph.D., Applied Physics, University of Maryland, Baltimore County.
- M.S. (in progress), Artificial Intelligence, Purdue University.
- M.S., Applied Space Weather Research, Catholic University.
- M.S., Aeronautical and Astronautical Engineering, Purdue University.

- M.S., Applied Mathematics, Johns Hopkins University.
- M.S., Applied Physics, Johns Hopkins University.
- B.S., Physics, Virginia Polytechnic Institute and State University. Minor in mathematics.

I have taught physics as an adjunct faculty member at Prince George's Community College since 1991. During the day, I work as a research physicist at the NASA Goddard Space Flight Center in Greenbelt, doing research in heliophysics (the physics of the electromagnetic and plasma environments of the Earth, Sun, and planets).

## Email

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All credit students are required to use Owl Mail for all college communication.

## Course Information

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**Course Description:** This course is the first course in a three-semester sequence of university level physics (PHY- 2020, PHY-2030, PHY-2040) for a variety of majors including but not limited to engineering, mathematics, and science. This course is a calculus-based study of classical mechanics. This course deepens students' understanding of the laws of nature through problem solving and experimentation. Students primarily learn about motion by examining Newton's three laws of motion. Students also examine conservation principles, particularly those of energy and momentum. Additionally, students investigate fluid mechanics, gravity, and rotational dynamics.

**Corequisites:** MAT-2420

**Outcomes:**

1. Distinguish between scalar and vector physical quantities and use basic vector analysis to solve physics problems.
2. Solve kinematics problems for motions in one and two dimensions.
3. Apply the concepts of force, gravitation, momentum, energy, conservation of momentum, and conservation of energy to solve problems in classical mechanics.

4. Use the concepts of pressure, buoyancy, and continuity to solve problems in basic fluid mechanics.
5. Develop mathematical equations for the physical systems studied in this course.
6. Perform experiments to explore a variety of physical phenomena in classical mechanics, using traditional tools as well as modern technology, gathering scientific data in multiple measurements, including quantifying measurement error with statistical techniques.
7. Write a lab report in proper scientific format that discusses measurements with appropriate precision and accuracy and any discrepancy between experimental and expected lab results

## Credit Hour Statement

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At Prince George's Community College, for all credit courses, students are expected to spend a minimum of 37.5 hours of course time per credit. Course time consists of both direct faculty instruction and out-of-class student work. This course is a **4** credit course. This course achieves the minimum of **150** hours of course time by requiring **85** hours of direct faculty instruction and **65** hours of out-of-class student work.

## Textbook or Open Educational Resources

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**Title:** **Physics for Scientists and Engineers (10th ed)**

**ISBN:** Physics for Scientists and Engineers, 10th ed., R.A. Serway and J.W. Jewett. Brooks/Cole, 2019. (ISBN 9781337553292)

**Authors:** R.A. Serway and J.W. Jewett

**Publisher:** Brooks/Cole

**Publication Date:** 2019

**Title:** **General Physics I: Classical Mechanics**

**ISBN:** N/A

**Authors:** D.G. Simpson and L.L. Simpson

**Publisher:** N/A

**Publication Date:** 2025

**Additional Information**

At URL: <http://www.pgccphy.net/2020/phy1030.pdf>

**Title: Introduction to College Mathematics**

**ISBN:** N/A

**Authors:** D.G. Simpson

**Publisher:** N/A

**Publication Date:** 2024

**Additional Information**

At URL: <http://www.pgccphy.net/ref/college-math.pdf>

## Other Required Course Materials

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**Title: Scientific Calculator**

**Additional Information**

A scientific calculator will be required for this course. Cell phones will not be allowed on exams, so you will need a separate physical calculator. No particular model of calculator is required; choose whatever model you wish.

## Grading Criteria

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- Homework            20%
- Laboratory work    15%
- Exam #1             20%
- Exam #2             20%
- Final exam           25%

## Grading Scale

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Grading Scale for the Course

Percentage	Letter Grade
100%-90%	A
89%-80%	B
79%-70%	C
69%-60%	D
<60%	F

## Late Assignments & Make-Up Policy

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Homework assignments will be handed in *in class*. Homeworks submitted late will receive a significant penalty. Homeworks submitted after the solutions have been handed out will not be accepted. The lowest homework grade will be dropped.

Laboratory sessions cannot be made up. The lowest laboratory grade will be dropped.

If you must be absent from an exam, consult with your instructor *before* the exam is given.

## NA Grade

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The **NA GRADE** may be assigned by the faculty member to any student on the roster who never attends or academically participates in the class during the first three weeks of class (or equivalent of 20 percent in short courses).

## FX Grade

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The **FX GRADE** may be assigned by the faculty member to any student on the roster who did not officially withdraw from the course but who failed to participate in course activities through the end of the period. It is used when, in the opinion of the instructor, completed assignments or course activities or both were insufficient to make normal evaluation of academic performance possible.

## Withdraw Statement

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As the semester continues, I hope to see all of you staying in my course and doing well. However, if you are considering withdrawing from this course, your withdrawal may result in financial aid and /or academic standing implications. Therefore, if you are considering withdrawing at any point, please speak with me before making a final decision. I may be able to offer to direct you to help. If I am unavailable, please contact Dr. J. Christopher Hunt via email at [huntjc@pgcc.edu](mailto:huntjc@pgcc.edu) or telephone at 301-546-PGCC (7422) – ext. 60429.

## How Assignments Are to Be Submitted

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All assignments are to be subitted on paper, in person in class.

## College Policies

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All college policies regarding Disability Support Services, Community in Unity Civility Pledge, Title IX: Complaint and Grievance Process, Pregnant Student and Students with Post-Pregnancy Complications, Code of Conduct, Code of Academic Integrity, Health and Wellness, College Central Network (CCN), and more can be found on our [Academic and Important College Policies](#) webpage - OR - you can visit:

<https://catalog.pgcc.edu/content.php?catoid=35&navoid=6379>

## Course Outline

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Course Outline

<b>Date</b>	<b>Topics</b>	<b>Reading Assignments</b>	<b>Assessments</b>
Aug. 18-20	Math Review; Measurement	Serway Ch. 1 and App. B	
Aug. 25-27	Kinematics (1D)	Ch. 2	
Sept. 1-3	Vectors	Ch. 3	
Sept. 8-10	Kinematics (2D)	Ch. 4	
Sept. 15-17	Exam 1; Newton's Laws	Ch. 5	
Sept. 22-24	Circular Motion	Ch. 6	
Sept. 29 - Oct. 1	Energy	Ch. 7	

<b>Date</b>	<b>Topics</b>	<b>Reading Assignments</b>	<b>Assessments</b>
Oct. 6-8	Conservation of Energy	Ch. 8	
Oct. 13-15	Linear Momentum	Ch. 9	
Oct. 20-22	Exam 2; Linear Momentum	Ch. 9	
Oct. 27-29	Rotational Motion	Ch. 10	
Nov. 3-5	Angular Momentum	Ch. 11	
Nov. 10-12	Gravitation	Ch. 13	
Nov. 17-19	Celestial Mechanics		
Nov. 24-26	Advanced Topics		
Dec. 1	Final Exam		