PRINCE GEORGE'S COMMUNITY COLLEGE

GENERAL PHYSICS I

ADDITIONAL SYLLABUS INFORMATION

PHY 2020	Instructor:	Dr. D. Simpson
Section LE01	Office:	310-I Chesapeake Hall
Fall 2025	Office Hours:	Mon & Wed 5:30-6:00 pm
Mon & Wed 6:00-7:50 pm CH-301	Telephone:	(301) 322-0990 ext. 4768
	Email:	dsimpson@pgcc.edu

Course Web site: http://www.pgccphy.net/2020
Textbook Web site: http://www.cengage.com/physics/serway

Textbooks:

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

Study Guide with Student Solutions Manual and Study Guide to Accompany Physics for Scientists and Engineers, 10th ed., R.A. Serway and J.W. Jewett. Brooks/Cole, 2018. (Optional.)

Recommended Reference:

The Feynman Lectures on Physics (3 vol.), R.P. Feynman, R.B. Leighton, and M.L. Sands. Addison-Wesley, 1963. (These can be found free online at https://www.feynmanlectures.caltech.edu)

Course Description:

This course is a calculus-based study of classical mechanics, including laws of motion, force, energy and momentum, and gravitation.
Prerequisite: Calculus I (MAT 2410)
Co-requisite: Calculus II (MAT 2420)

Homework:

There will be approximately one homework assignment per week, usually given out on Mondays and due the following Monday. All homework assignments, i.e., problem sets, are due on the date indicated for the assignment, AT THE BEGINNING OF 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 score will be dropped in computing your homework grade.

The final homework will be a small project involving celestial mechanics, and will be worth two regular homeworks.

Laboratory:

Each Wednesday we will have a laboratory section that will consist of a lecture and/or laboratory work. Attendance at laboratory sessions is mandatory; you will not receive credit for laboratory sessions you did not attend.

Exams:

Two exams will be given during the semester and will be scheduled at least one week in advance. If you must be absent from an exam, consult with your instructor BEFORE the exam is given. There will be no need to memorize formulae for an exam; all the important formulae will appear on a formula page passed out with the exam.

Calculators or slide rules are permitted during exams. Any use of cell phones or smart watches during exams is strictly prohibited. All cell phones and smart watches must be OFF and put away during all exams.

Final Exam:

In addition to these two exams, there will be a comprehensive final exam on December 1 from 6:00 to 8:20 pm.

Grading:

Your final grade will be based on your scores on homework, the two exams, and the final exam, as follows:

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

Grading will be determined by a class average. The following scores will be sufficient to earn the following grades:

A	90%
B	80%
C	70%
D	60%

Changes to Syllabus:

The instructor reserves the right to make changes to the syllabus at any time, as circumstances may require.

Classroom Policies:

Academic honesty and integrity will be expected of you at all times -- for this course or any other. I will deal with infractions quite severely.

You are free to ask questions at any time during the lecture, but the classroom is not the place for conversations. If you'd like to have a personal conversation, please take it into the hallway.

Photocopied assignments will not be accepted.

Mathematical notation:

You will be expected to use proper mathematical notation in all your work. Do not use * for multiplication, or E or ^ for exponentiation. For example:

2.67×3.14	*or*	$2.67 \cdot 3.14$	*or*	$(2.67)(3.14)$	*not*	$2.67 * 3.14$
				1.23×10^6	*not*	1.23E6
				10^{15}	*not*	$10 \wedge 15$

In this course, we will use American-style mathematical notation, in which the period (.) is used as the decimal point and the comma (,) as a digit separator.

For example, 4.56 means "four and fifty-six hundredths," while 1,000,000 means "one million."

Memorization:

There will be a few things you will be expected to memorize for this class. Among these will be especially the Greek alphabet and the SI prefixes exa- through atto- (below).

The Greek alphabet.

Letter	Name
A α	Alpha
B β	Beta
Γ γ	Gamma
Δ δ	Delta
E ε	Epsilon
Z ζ	Zeta
H η	Eta
Θ θ	Theta
I ι	Iota
K κ	Kappa
Λ λ	Lambda
M μ	Mu
N ν	Nu
Ξ ξ	Xi
O o	Omicron
Π π	Pi
P ρ	Rho
Σ σ	Sigma
T τ	Tau
Υ υ	Upsilon
Φ φ	Phi
X χ	Chi
Ψ ψ	Psi
Ω ω	Omega

(Alternate forms: $\varbeta = \beta$, $\eth = \delta$, $\epsilon = \varepsilon$, $\vartheta = \theta$, $\varkappa = \kappa$, $\varpi = \pi$, $\varrho = \rho$, $\varsigma = \sigma$, $\phi = \varphi$.)

SI prefixes.

Prefix	Symbol	Definition
quetta-	Q	10^{30}
ronna-	R	10^{27}
yotta-	Y	10^{24}
zetta-	Z	10^{21}
exa-	E	10^{18}
peta-	P	10^{15}
tera-	T	10^{12}
giga-	G	10^{9}
mega-	M	10^{6}
kilo-	k	10^{3}
hecto-	h	10^{2}
deka-	da	10^{1}
deci-	d	10^{-1}
centi-	c	10^{-2}
milli-	m	10^{-3}
micro-	μ	10^{-6}
nano-	n	10^{-9}
pico-	p	10^{-12}
femto-	f	10^{-15}
atto-	a	10^{-18}
zepto-	z	10^{-21}
yocto-	y	10^{-24}
ronto-	r	10^{-27}
quecto-	q	10^{-30}