

Berkeley City College
PHYS 3A: General Physics

Fall 2023
Sec. B2, Class 40306
Sec. B2L, Class 40307

Lecture: Mondays and Wednesdays from 5:00 to 6:50 pm (August 21 to December 13) in BCC 518

Instructor: Matt Fillingim (he/him) (matt@ssl.berkeley.edu or mfillingim@peralta.edu)

Student Hours: Mondays and Wednesdays from 4:00 to 5:00 pm in BCC 518 (or by appointment)

Laboratory: (most) Wednesdays 7:00 pm to 9:50 pm (August 23 to December 6) in BCC 518

Laboratory instructor: Rosa Alvis (ralvis@peralta.edu)

Class Website: <http://research.ssl.berkeley.edu/matt/PHYS3A/>
(find updated assignments and class schedule here!)

Text: [University Physics](#), vol. 1, by Moebis, Ling, & Sanny, OpenStax, 2016.

[University Physics](#), vol. 2, by Ling, Moebis, & Sanny, OpenStax, 2016.

Course Description:

Comprehensive study of major topics of physics: Motion, forces, gravity, energy, momentum, rotation, equilibrium, fluids, oscillations, waves, sound, heat, and thermodynamics for students majoring in the biological and medical sciences.

Prerequisite: MATH 3A: Calculus I

Text content and tentative schedule:

Chapters 1 – 6: Motion and Forces – test on or about **September 20th**

Chapters 7 – 13: Energy, Momentum, and Rotation – test on or about **November 1st**

Chapters 14 – 17: Fluids, Waves, and Acoustics & Chapters 1 – 4 (vol. 2) Thermodynamics
– test on or about **December 13th** (aka **Final**)

Laboratory Schedule:

There will a total of 10 (or so) laboratory experiments during the semester – starting August 23th
(a more detailed schedule is forthcoming)

Student Learning Outcomes:

Upon completion of this class, students will be able to do the following:

1. Explain and discuss both verbally and in written language the physics concepts listed in course content, as well as their relevance to everyday events and circumstances in a broad interdisciplinary context.
2. Use algebra, trigonometry, and calculus to set up mathematical descriptions of physical systems and to calculate measurable quantities that provide an understanding of the physical environment in terms of the concepts listed in the course content.
3. Set up laboratory equipment safely and efficiently, plan and carry out experimental procedures, identify possible sources of error, implement techniques that enhance precision, reduce and interpret data, and report verbally and in written language the experimental data, results, and assessment of reliability.

Relation to degree and transfer programs: (always be sure to check with your academic counselor!)

The course can help satisfy the Intersegmental General Education Transfer Curriculum (IGETC)

Area 5A – Physical Sciences (see the [Berkeley City College 2023-2024 Catalog](#))

This course can help satisfy UC Berkeley College of Letters and Sciences: Breadth Requirements

Area 6 – Physical Science (see the [Berkeley City College 2023-2024 Catalog](#))

This course can help satisfy the CSU General Education Breadth Requirements

Area B1 – Physical Sciences (see the [Berkeley City College 2023-2024 Catalog](#))

This course can help satisfy the requirements for the Associate in Arts and Associate in Science degrees

Area 1 – Natural Science (see the [Berkeley City College 2023-2024 Catalog](#))

(This course can also help satisfy the requirements for individual [programs](#) – check with a counselor!)

Disability Statement:

BCC is committed to providing reasonable accommodations for all individuals with disabilities. Any student with a documented disability in need of academic accommodations should speak with BCC's Student Accessibility Services (SAS) [formerly Programs & Services for Students with Disabilities (PSSD)] and the instructor as early in the semester as possible. SAS can be contacted at SAS.BCC@peralta.edu or 510-981-2812 All conversations will remain confidential.

Homework policy (including laboratory reports):

There will be assignments for each chapter (20 total) due two classes after they are assigned. Assignments are due at the beginning of class on the due date; *late assignments* are accepted for *half credit* unless *previous* arrangements have been made (**not** *after-the-fact* arrangements).

Exam policy:

While you are encouraged to work and study together in groups, be sure that you have an independent understanding to the material. **Exams are not collaborative!** Academic dishonesty (e.g., cheating or plagiarism) is **bad** (see the [Berkeley City College 2023-2024 Catalog](#): Student Standards of Conduct).

Grading: (approximate, tentative, and subject to change)

Homework Assignments (20)	20%	A	90 – 100
Laboratory Performance/Reports (10)	20%	B	79 – 89
Exams (3)	60%	C	68 – 78
		D	57 – 67
		F	≤ 56

Important Dates:

August 21– First day of class
September 4 – Last day to **add** a class
September 4 – Last day to **drop** a class with a refund and without a “W”
September 4 – Labor Day (Monday – no class)
October 18 – Professional Day (Wednesday – no class, no lab)
October 20 – Last day to petition for AA or AS degrees or certificates
November 17 – Last day to **drop** a class and receive a “W”
December 13 – Final exam/Last day of class

Land Acknowledgement:

Berkeley City College recognizes that the College sits on the territory of xučyun (Huichin), the ancestral and unceded land of the Chochenyo speaking Ohlone people, the successors of the sovereign Verona Band of Alameda County. This land was and continues to be of great importance to the Muwekma Ohlone Tribe and other familial descendants of the Verona Band.

We recognize that every member of the Berkeley community has, and continues to benefit from, the use and occupation of this land. Consistent with our values, we have a responsibility to acknowledge and make visible the College's relationship to Native peoples. As members of the Berkeley community, it is vitally important that we not only recognize the history of the land on which we stand, but also, we recognize that the Muwekma Ohlone people are alive and flourishing members of the Berkeley and broader Bay Area communities today.

Laptop and Hotspot Loan Program:

Berkeley City College is committed to ensuring all students have the access to technology they need to participate in their courses and complete them successfully. Once again, the library has laptops and WiFi hotspots for loan to enrolled students for the Fall 2023 semester. Visit the library (first floor BCC) for more information.

Tutoring:

The Learning Resources Center (LRC) is open online and in person. To schedule a tutoring appointment, visit the [LRC website](#) or visit the LRC (first floor BCC) for more information.

Net Tutor is a service that provides live, one-to-one, online tutoring at no cost to California Community College students. This service is provided to supplement BCC tutoring offerings. Students can access Net Tutor from the course page on Canvas (select "Online Tutoring" at the bottom of the list on the left-hand side of the page).

COVID-19 Protocols:

The COVID situation can change rapidly. Currently, masks are optional on Peralta Community College District (PCCD) property (including BCC) and will no longer be required. **People may choose to mask at any time.** People with symptoms, a positive test, or exposure to someone with COVID-19 should stay at home and not come onto campus. For the latest information, check [SAFE Peralta](#).