

Syllabus

Course Information

- Semester and Year: Fall 2026
- Course Title: University Physics I: Mechanics
- Course Prefix and Number: PHY 121 Lec/Lab
- Section Number: 18503/18504
- Credit Hours: 4
- Start Date: 8/25/2026
- End Date: 12/18/2026
- Room Number: NS 402
- Meeting Days: Tuesday and Thursday
- Meeting Times: 12:30 pm – 3:15 pm
- Class Format: In-Person

Instructor Information

- Instructor: Kirticia Jarrett
- Email: kirticia.jarrett@scottsdalecc.edu
- Phone: 480-423-6122
- Office Location: NS 132
- Office Hours: Monday & Wednesday 12:00pm-1:30pm
Friday 11:00 am – 1:00 pm – by appt

Course Description

Kinematics, Newton's laws, work, energy, momentum, conservation laws, dynamics of particles, solids, fluids, mechanical waves, and sound.

Prerequisites and/or Corequisites

A grade of C or better in MAT220 or MAT221 or permission of Department or Division. One year of High School physics or PHY111 and PHY112 suggested but not required.

Course Competencies

1. Use fundamental physical laws and principles to solve problems encountered in academic and non-academic environments. (I-IV)
2. Develop and use models that closely represent actual physical situations. (I-IV)
3. Apply problem solving techniques in terms of logic, efficiency, and effectiveness. (I-VI)
4. Work effectively in collaborative groups. (I-VI)
5. Solve practical engineering and science problems. (I-VI)

General Education & Institutional Learning Outcomes

General Education provides foundational learning experiences that contribute to academic and career success. It is reflected in [Scottsdale Community College's Institutional Learning Outcomes](#): Arts & Humanities Awareness, Career Readiness, Critical Thinking and Problem Solving, Effective Communication, Information Literacy, and Social Responsibility. Students who take PHY 121 will learn about the principles of physical phenomenon, which relates to critical thinking and problem solving. Students will also enhance their communication and career readiness skills.

Program Learning Outcomes

Credit-bearing courses at Scottsdale Community College can count toward the completion of a degree or certificate program. Each program has Program Learning Outcomes, which are learned assets that students can claim to have acquired by completing their academic or occupational program at SCC. Program Learning Outcomes can be found on the [Degrees and Certificates page](#) of the SCC Website. For each degree, look under “What You’ll Learn.”

This course is a General Education course that is foundational to many degree programs and a key component of the Arizona General Education Curriculum (AGEC) certificate program. This course fulfills a Natural Sciences (Quantitative) - SQ requirement for the AGEC.

This course most directly applies to the Associate of Science, Emphasis in Physics program with the following Program Learning Outcomes:

- Communicate scientific ideas, both qualitatively and quantitatively, using an appropriate technical vocabulary.
- Collaborate with others from diverse backgrounds.
- Provide order of magnitude estimates for physical quantities in appropriate units.
- Describe, predict, and explain real-world phenomena, utilizing a variety of different representations, such as mathematical, graphical, and pictorial formalisms.
- Collect and analyze experimental data, and then draw reasonable conclusions to both develop and support the laws of Physics.
- Apply principles of Physics to solve problems both inside and outside the classroom.

- Transfer information and problem-solving methods from familiar to unfamiliar contexts.

Texts and Course Materials

Text: Openstax: University Physics Volume 1

Link: <https://openstax.org/details/books/university-physics-volume-1?Book%20details>

Print: ISBN-13: 978-1-938168-27-7

Digital: ISBN-13: 978-1-947172-20-3

Calculator: You will need a calculator with scientific capabilities (powers, trig functions, logarithms). A graphing calculator is preferred. Please bring this with you to EVERY class.

Recommended: Laptop or Tablet (not required)

Course Policies

The following are policies specific to this course. Students are also responsible for the college policies included on the [Student Regulations](#) page of the Maricopa Community College District website.

Cheating/Plagiarism

Although students are encouraged to work together on assignments, your solutions and analysis should not be identical. Make sure that you are doing your own work on all assignments and submitting work that is uniquely yours and something to be proud of.

Cheating and Plagiarism are defined in [MCCCD Administrative Regulation 2.3.11](#) and will not be tolerated in this course.

Academic Consequences for Cheating/Plagiarism

From [MCCCD Administrative Regulation 2.3.11](#)

Any student found by a faculty member to have committed academic misconduct may be subject to the following academic consequences, based on the faculty member's judgment of the student's academic performance including, but not limited to:

- **Warning** - A notice in writing to the student that the student has violated the academic standards as defined in 1.A.
- **Grade Adjustment** - Lowering of a grade on a test, assignment, or course.
- **Discretionary Assignments** - Additional academic assignments determined by the faculty member.
- **Course Failure** - Failure of a student from a course where academic misconduct occurs.

Late Work Policy

All assignments and quizzes must be submitted on time. If you miss a deadline, the following penalties apply based on the type of assignment:

- **Standard Assignments:** Late submissions lose **25% of their total value per day** late.
- **Quizzes:** Late quizzes lose **50% of their total value immediately**. No quiz submissions are accepted **after 3 days**, resulting in a score of 0.

Rounding Policy

At the end of the semester if you are within 1% of the next grade, I will round your grade up if you have no zeroes in the gradebook, you have not missed class (all or part) more than twice, I have no reason to question the authenticity of any of your work for the semester, and your commitment to your work suggests “next level” understanding.

Withdrawal Information

If you must withdraw from the course, see the Withdrawal Policy information located in the College Policies & Student Services page found in the First Steps module of your Canvas course.

*Notes: Deadline to withdraw without instructor approval: October 9, 2026

This is the end of the 7th Week

Final Deadline to withdraw: November 25, 2026 (requires instructor approval)

This is the end of the 14th Week

Instructor Illness

If your instructor is ill and cannot attend class, updates and announcements will be provided in Canvas, Maricopa email, or other class communication channels prior to class that day if possible.

Attendance Policy

Students that do not attend the first class period will be dropped from the course.

Attendance is required for this course! Attendance will be recorded for all class and lab sessions. To be considered in attendance:

- Engage in group work: You will often work together in small groups, allowing you to converse with your group and, at times, your instructor. Converse with your group and actively use whiteboards and any other idea-sharing technology!
- Engage in whole-class discussions: Participate and share ideas, questions, and concerns with the instructor and/or the class.

- If you are more than 20 minutes late for class or leave early, it will count as an absence.

Failure to follow these guidelines would result in an absence, even if you attended class

If you exceed three absences your grade will drop. After three absences each absence may lower your semester grade by one letter grade. Official absences, as defined by [MCCCD Administrative Regulation 2.3.2](#), don't apply to this.

After seven absences you will earn an F in the course.

Instructional Contact Hours and Minimum Course Expectations

Instructional contact hours are the weekly time students spend directly learning with their instructor or course activities. These activities include, but are not limited to, lectures, discussions, labs, group work, and viewing recordings. Instructional contact hours vary by course; refer to the [MCCCD course bank](#) for your course's details.

Minimum course expectations include the number of hours students are expected to spend outside of class (weekly) completing coursework. Students are encouraged to use the [Time Management Calculator](#) to help estimate their weekly time commitment for classes.

Breakdown of time spent out of class for a typical student in a standard week:

Lab Reflection Write-Up: 1-2 hours

Reading and Investigating Other Resources: 1-2 hours

Personal Practice: 2-3 hours

Weekly Quiz: 1-2 hours

Course Technologies

View the [Accessibility Statements & Privacy Policies](#) of the technologies used in this course. The [SCC Help Desk](#) provides students with a primary point of contact within SCC for college-supported technology services and technical assistance.

Maricopa Systems

This course uses key Maricopa systems for course management and communication.

- Canvas Learning Management System
- Student Maricopa Gmail Account
- Maricopa Open Educational Resource Learning System (MOER)

Student Assignment Tools

This course requires students to participate in or submit assignments using desktop or cloud-based applications.

- Google Products
- positivephysics.org

- Graphical Analysis - This app is available for free download on any operating system including phones, tablets, and laptops.
- [Microsoft Office 365](#)

Exam Proctoring Tools

Respondus LockDown Browser and Respondus LockDown Browser with Monitor

Respondus LockDown Browser secures online exams by locking down the testing environment within Canvas. LockDown Browser prevents access to other applications and many common functions on a computer while an assessment is active. Some of the exams in this course require the use of this software. A LockDown Browser download link will be provided within the Canvas course. For further information, see the [Student Resources](#) page provided. For your reference, read the [System Requirements for LockDown Browser](#) and [LockDown Browser Terms of Use](#).

Respondus LockDown Browser with Monitor requires a room scan prior to all testing sessions.

Accommodations for Online Proctoring

If you have approved DRS accommodations, they still apply during online proctored exams (e.g., ProctorU or MonitorEdu). Some setups may need advanced coordination, so please contact your instructor as soon as possible to ensure everything is in place.

Generative Artificial Intelligence (AI) Policy

The World Economic Forum defines generative AI as “a category of artificial intelligence (AI) algorithms that generate new outputs based on the data they have been trained on. Unlike traditional AI systems that are designed to recognize patterns and make predictions, generative AI creates new content in the form of images, text, audio, and more.”

Some examples of generative AI tools include but are not limited to: ChatGPT, Google Gemini, Microsoft Copilot, Stable Diffusion, GrammarlyGo, and Adobe Firefly.

Some Generative Artificial Intelligence (AI) Allowed in Specific Circumstances

There are situations and contexts within this course where you may be permitted to use generative AI tools. In these cases, specific guidelines will be provided in the assignment details. If you are unsure if the tool or website you are using is a generative AI tool or if it is permitted on a specific assignment, please contact the instructor for further clarification before submitting your work.

Grading Standards and Practices

Your grade will be calculated based on 4 categories Labs, Practice/Readings, Quizzes, and Exams.

Lab

Every week you will turn in a write up of a lab activity. It may be one lab with a larger write-up, or it may be a series of smaller lab activities that will be turned in as a single document. Even if you are given a lab handout with the questions, it is expected that you will take your time to write up a summary of your results. All labs will be submitted through canvas and will be due Saturday night at 11:59 pm.

Practice/Reading

Each week you will be expected to do a quick reflection on the assigned reading and practice. During class time each week we explore new topics through labs, discussions, and in-class practice. Outside of class time you should be reading about the same concepts, I recommend doing the reading after we introduce the idea in class, this helps you develop your own schema, and the reading then reinforces and helps formalize the concepts. Then you will try more practice on your own, see what you are capable of, answer keys will be posted. You are expected to complete at least 50% of the personal practice by the due date, then complete all of it by the exam date.

After you have completed class for the week, done the reading, and done the practice problems you will complete a quick check point assignment in canvas.

All practice/reading assignments will be submitted through canvas and will be due Monday night at 11:59 pm.

Weekly Quizzes

Every week you will have a take-home quiz to complete. You will receive the quiz at the start of the week. You are allowed to work with your classmates, and you are allowed to work in the SCC tutoring center. But if you are working with others, remember that each student is responsible for their own work and understanding. AI is not allowed on quizzes. All quizzes will be submitted through canvas and will be due at the start of class on Tuesday. Late quizzes lose **50% of their total value immediately**. No quiz submissions are accepted **after 3 days**, resulting in a score of 0.

Exams

There will be three major in-person summative exams and one final project.

Grade Calculation

Exams (Including Final Project)	60%
Labs	20%
Practice/Readings	5%
Quizzes	15%

Grade Scale

Letter Grade	Points Range
A	90 – 100%
B	80 – 89%
C	70 – 79%
D	60 – 69%
F	0 – 59%

Tentative Course Schedule:

Constant Velocity and Accelerated Motion Model	Weeks 1-5
First Summative Exam	September 24, 2026
The Force Model (Including the Centripetal Force Model)	Weeks 6-10
Second Summative Exam	October 29, 2026
The Conservation Laws Model (Energy and Momentum)	Weeks 11-16
Third Summative Exam	December 10, 2026
Final Project – Bring Game to Class	December 15, 2026
Final Project Write Up Due Date	December 17, 2026

Student/Instructor Interaction

In this course, you can expect regular and substantive interaction (RSI) that aligns with Scottsdale Community College's mission to provide challenging and supportive learning experiences and the US Department of Education's requirement for regular and substantive interaction (RSI) for online courses. My commitment to your success includes the following:

- Being available during regularly scheduled office hours as stated in the syllabus.
- Sharing weekly information about the course materials, including key information, explanations, examples, and resources via in-person, recorded, and/or text-based lectures.
- Engaging in weekly discussions about course content within discussion boards in Canvas, forums in MOER, or other discussion-based tools.
- Providing group or individual feedback regularly on assignments.
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- Promptly responding to student questions about the course sent via email, MOER messaging, or the Canvas inbox.
- Monitor your academic progress and communicate concerns, as needed.

Response Time

Students can expect a response time of of two days (excluding weekends and holidays) for the instructor to respond to messages sent via the Canvas Learning Management System or @maricopa.edu email. Students can expect assignments to be graded within **two weeks** of the assignment's due date.

Tutoring

SCC's tutors are available online to help with your courses. You may work with an SCC tutor remotely using Google Meet, your phone, or email. Visit the [Tutoring & Learning Centers](#) page for detailed information on the five learning centers' hours and procedures.

If you need to work with a tutor outside regular hours, online and hybrid students now have access to a 24/7 online tutoring service called Brainfuse. To access Brainfuse and begin working with a tutor, visit the [SCC Online Tutoring Services Through Brainfuse](#) page.

MCCCD Policies

MCCCD is committed to providing a safe, fair, and accessible environment for all students. This includes laws such as the ADA and Title IX, which protect against discrimination. These statements explain your rights, available support, and where to go for help or more information. Please review the following policies:

Classroom Accommodations for Students with Disabilities

In accordance with the Americans with Disabilities Act (ADA), the Maricopa County Community College District (MCCCD) and its associated colleges are committed to providing equitable access to learning opportunities to students with documented disabilities (e.g. physical, sensory, neurological, chronic illness, mental health, learning disabilities, or other health concerns). If you require accommodations for this course, please contact [Disability Resources and Services](#) (DRS) at your college.

Contact with [DRS](#) should be made as soon as possible to ensure academic needs are met in a reasonable time. Additional information can be found in the [Non-Discrimination Statement](#) and [MCCCD Non-Discrimination Policies](#).

[Addressing Incidents of Title IX Sexual Harassment](#)

Students are responsible for the information contained in this syllabus, the Syllabus page in the Canvas course, and the College Policies & Student Services page located under SCC Student Resources in the Canvas course navigation menu. The instructor will notify students of any changes to course requirements or policies.