



Course Information

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| Semester & Year: | Spring 2024 |
| Course Title: | University Physics I: Mechanics |
| Course Prefix & Number: | PHY 121 Lec/Lab |
| Section Number: | 15619 and 15620 |
| Credit Hours: | 4 |
| Start Date: | 01/17/24 |
| End Date: | 05/10/24 |
| Room Number: | NS 402 |
| Meeting Days: | Mon/Wed |
| Meeting Times: | 9:00 am -11:50 am |

Course Format

The course format for this course is In Person.

Instructor Information

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| Instructor: | Kirticia Jarrett |
| Email: | kirticia.jarrett@scottsdalecc.edu |
| Phone: | 480-423-6122 |
| Office Location: | NS 128 |
| Office Hours: | Monday and Tuesday 12:00 pm -1:00 pm Wednesday and Thursday 8:00 am - 9:00 am Friday 11:00am-12:00pm on Zoom by Appt |

Course Description

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

Prerequisites

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)

Texts and Course Materials

Recommended Text (opensource):

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.

Course Technologies

View the [Accessibility Statements & Privacy Policies](#) of technologies used in this course.

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
- Microsoft Office 365
- Logger Pro - This is a program we will use on and off during the semester to process data from labs. There is a document in our Canvas course about downloading the software for your platform. Please note that it doesn't work on phones nor Chromebooks, only MacOS or Windows.
- Graphical Analysis – This app is available for free download on any operating system including phones and chromebooks.

Plagiarism Checker Tool (Turnitin)

Turnitin is a plagiarism check tool that matches text to a vast database of sources including the internet, published works, commercial databases and student work submitted to Turnitin in institutions internationally. Students must submit designated papers to Turnitin when instructed. Information and instructions for Turnitin are provided in the course. For your reference, read the [Turnitin Terms of Service](#).

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.

Generative Artificial Intelligence (AI) Policy

Opening Statement Regarding Generative Artificial Intelligence (AI)

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 Bard, 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 & Practices

Your grade will be calculated based on 4 categories Summative Assessments, Weekly Quizzes, Labs and Practical Work, and Weekly Reflections.

Summative Assessments: There will be three major exams and one final project which will fall into this category.

Weekly Quizzes: Every week you will have a take-home quiz to complete. You will receive the quiz on Monday of the week, and then it will be due Wednesday of the following week. The only weeks without a quiz are the weeks that contain a summative exam. 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. Do not use online “homework help” websites. If it feels like you are cheating, you probably are.

Labs and Practical Work: Every week you will turn in 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. All labs and practical work will be submitted through canvas and will be due at the start time of class on Monday of the following week.

Practice: Every week you will receive a practice document that is a combination of in-class practice and at-home practice. Throughout the week we will take class time to work as individuals, in groups and as a whole class to complete the in-class practice. You will typically work alone or with a partner for a short time, then we will whiteboard and share analysis with the class as a whole. The at-home practice will have an answer key posted, so that you can check your answers and check your work as you try to

apply what was developed in class to unique situations. You also need to spend time outside of class researching and practicing the science model we are currently developing in class.

Weekly Reflections: Every week you will be expected to write a reflection on the labs, activities and assignments that we completed that week. Not only will you be expected to reflect on what you learned in class, but you will also be expected to reflect on your own efforts outside of the classroom, examples of this would be: working on the at-home practice and reading the openstax textbook or watching a couple of physics videos on youtube or attending the tutoring center and working through the at-home practice with a tutor.

Your reflections will always be due at the start of class on Monday related to the previous week.

Grade Calculation:

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| Summative Assessments (Including Final Project) | 50% |
| Weekly Quizzes | 15% |
| Labs and Practical Work | 25% |
| Weekly Reflections | 10% |

Late work policy - Work submitted late will have a deduction taken off as follows:

0.00001 - 24 hours late – 25% off

24.00001 - 48 hours late – 50% off

48.00001 - 72 hours late – 75% off

More than 72 hours late – 0 points

Tentative Course Schedule:

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|---|-------------------|
| The Force and Accelerated Motion Model | Weeks 1-6 |
| First Summative Exam | February 21, 2024 |
| The Conservation Law Models (Energy and Momentum) | Weeks 7-11 |
| Second Summative Exam | April 3, 2024 |
| The Rotational Motion Model | Weeks 12-15 |
| Third Summative Exam | May 1, 2024 |
| Final Project Write Up Due Date | May 8, 2024 |

Grade Scale

Below is the tentative grading scale:

| Letter Grade | Points Range |
|--------------|--------------|
| A | 90 – 100% |
| B | 80 – 89% |
| C | 70 – 79% |
| D | 60 – 69% |
| F | Below 60% |

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.

Response Time

Students can expect a response time of 2 days (excluding weekends and holidays) for the instructor to respond to messages sent via the Canvas Learning Management System or email. Students can expect assignments to be graded within 1 week of the assignment’s due date.

Attendance Policy

You can miss 3 classes for “free” after that each class you miss will cost you a letter grade for the semester. Official absences don’t apply to this. If you miss two classes in a row, I will contact you about why you missed class (if you don’t let me know first).

After 7 absences you will be dropped from the course for excessive absences.

Instructional Contact Hours (Seat Time)

This is a four (4) credit-hour course. Plan to spend at least 5.5 hours on course content or seat time (direct instruction including labs) and 6-8 hours on

homework/labs/reflections/quizzes/projects weekly. This is an average; some weeks may be less, and others may be more.

Here is a typical use of time spent out of class in a standard week:

Lab Write-Up: 1 hour

At-Home Practice: 2 hours

Investigating other resources: 1-2 hours

Reflection: 1 hour

Weekly Quiz: 1-2 hours

Online 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 center's hours and procedures.

As much as possible, it is highly recommended that you utilize SCC tutors since they are more familiar with SCC coursework, instructor expectations, and assignments; however, 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. Brainfuse provides online tutoring in a variety of academic subjects. Each student may utilize up to 6 hours of online tutoring through Brainfuse per semester, and has the option of requesting additional time if needed.

To access Brainfuse and begin working with a tutor:

1. Visit the [SCC Online Tutoring Services Through Brainfuse](https://www.scottsdalecc.edu/students/tutoring/online-tutoring) page (https://www.scottsdalecc.edu/students/tutoring/online-tutoring)
2. Click the **Visit a tutor online** button
3. Enter your MEID and password
4. Choose your topic and subject
5. Click the **Connect** button

Please use your time effectively and be prepared with your questions before you connect to a tutor. Tutors and students communicate in real-time so whatever you type, draw, or share on the screen, the tutor sees, and vice versa. You may also want to have screenshots ready if applicable. All Brainfuse sessions are recorded for review later.

Learning Tools and Your Privacy and Security

SCC utilizes a variety of software applications and web-based tools operated by third party vendors to support student learning. To allow student access to the application, site or tool, certain identifiable information may be required to establish a user name or password, and submit work and/or download information from these tools. Inherent with all internet-based tools, there is a risk that individuals assume when electing to use these tools, as they may place information at risk of disclosure.

To use learning tools responsibly, please observe all laws and the Maricopa Community College District [Student Conduct Code](#), such as copyright infringement, plagiarism, harassment or interference with the underlying technical code of the software. As a student using a learning tool, you have certain rights. Any original work that you produce belongs to you as a matter of copyright law. You also have a right to the privacy of your educational records. Your contributions to learning tools constitute an educational record. By using the tool, and not taking other options available to you in this course equivalent to this assignment that would not be posted publicly on the internet, you consent to the collaborative use of this material as well as to the disclosure of it in this course and potentially for the use of future courses.

Students are responsible for the information contained in this syllabus, the Syllabus page in your Canvas course and the **College Policies & Student Services** page found in the First Steps module of your Canvas course. Students will be notified by the instructor of any changes in course requirements or policies.