



**SCOTTSDALE
COMMUNITY COLLEGE**

A MARICOPA COMMUNITY COLLEGE

Course Information

Semester & Year:	Spring 2023
Course Title:	University Physics 3
Course Prefix & Number:	PHY 241
Section Number:	31603 / 31604
Credit Hours:	4/0
Start Date:	01/17/23
End Date:	05/12/23
Room Number:	NS 404
Meeting Days:	Tuesday and Thursday
Meeting Times:	9:00 am – 11:45 am
Google Classroom Link:	https://classroom.google.com/c/NTgwODMwOTEzMDY2?cjc=dcrqdk

Course Format

The course format for this course is In Person

Instructor Information

Instructor:	Michael Canham
Email:	Michael.canham@scottsdalecc.edu
Phone:	480.423.6018
Office Location:	online or NS 123
Office Hours:	Mondays: Noon – 1:15 (most weeks) - online

Wednesday: Noon – 1:00

Friday: 9:00 – 12:00 (most weeks) – Depends on the week – in person and/or online

Course Description

Heat, entropy, and laws of thermodynamics; wave propagation; geometrical and physical optics; introduction to special relativity

Prerequisites

A grade of C or better in PHY116 or PHY131 or permission of Instructor.

Course Competencies

1. Effectively communicate qualitative and quantitative information orally and in writing. (I-V)
2. Explain the application of fundamental physical principles to various physical phenomena. (I-V)
3. Apply appropriate problem-solving techniques to practical and meaningful problems using graphical, mathematical, and written modeling tools. (I-V)
4. Work effectively in collaborative groups. (I-V)

Texts, Course Materials and Technologies

The following is suggested. Any Physics text should work. There is a free (online) book on openstax. It is a free textbook for viewing online.

Openstax University Physics Volume 1 AND 2 AND 3

Hardcover:

ISBN-10: 1-938168-27-5

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

Paperback:

ISBN-13: 978-1-50669-817-5

Digital:

ISBN-10: 1-947172-20-4

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

Hardcover:

ISBN-10: 1-938168-16-X

ISBN-13: 978-1-938168-16-1

Paperback:

ISBN-13: 978-1-50669-816-8

Digital:

ISBN-10: 1-947172-21-2

ISBN-13: 978-1-947172-21-0

Hardcover:

ISBN-10: 1-938168-18-6

ISBN-13: 978-1-938168-18-5

Paperback:

ISBN-13: 978-1-50669-825-0

Digital:

ISBN-10: 1-947172-22-0

ISBN-13: 978-1-947172-22-7

Calculator: You will need a calculator with scientific capabilities (powers, trig functions, logarithms). 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)

Synchronous Communication Tools

This course implements the use of web conferencing and/or other synchronous course tools.

1. WebEx - That is a program that you will need to download onto your computer so you can attend office hours that are online. So, please download [WebEx Meetings](#) and create your Maricopa log in. You MUST use your Maricopa log in information for this to work with our class. This program can work on most platforms including phones. You must have a device that allows you to display video. I will want to make visual contact with you regularly during the semester.

Streaming Media/Audio/Video Tools

This course uses webcasting, lecture capture systems, YouTube, and/or other streaming media services.

- YouTube

Student Assignment Tools

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

- Google Classroom – This is going to be my primary method of classroom information and assignments. I will create a google classroom for this course. I will then provide you with the class ID so you can have access to it. Here I will put up homework assignments, labs, grades, quizzes, journals, etc. There are a few reasons I am going to prefer to use google classrooms:
 - If you have a smart phone linked to the account you use for our class all assignments will appear on your personal google calendar.
 - Google classroom works directly with Rocketbook (see purchases section below) to make it super easy to upload your assignments and to do in class quizzes.
 - Easy to return work. After I grade it, I can simply push “return” and you get the work back with comments.
- 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 (and on

google classroom) about downloading the software for your platform. Please note that it doesn't work on phones nor Chromebooks, only MacOS or Windows. And once you download and install the program go to the [Logger Pro Upgrade](#) site and get the newest version.

- CamScanner App – Not required but recommended. This application is available on both iOS and Android and will use your phone's camera like a scanner. This will take pictures of pages and combine them into a single file for uploading. This will work well for labs if you choose to print out the labs and write in your answers. Then you can "scan" your lab pages using this app and then upload the file to Google Classroom. An alternative would be if you own an actual scanner. May be helpful on some labs
- Rocketbook and App – possible need. 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.

Grading Standards & Practices

GRADING:

HW	20 points each
Lab Reports	10 points each
Quizzes	10 points each
Journals	10 points each
Celebrations	80 point each (3 total)
Project	30 points –This is still a maybe we will discuss it in class.

Your final grade is determined by adding up points earned and dividing it by total possible points. All work – labs, homework, project papers, etc. – are to be turned in at the beginning of the class in which they are due. I will not accept any assignment that is turned in via email for graded credit. I will accept an emailed assignment as proof that you have completed it on time (as long as I receive the email before class starts on the due date), but I will require a physical copy by the next class period to actually grade. If I don't receive a physical copy to grade you will earn a 0 for the assignment.

Homework is posted online for the entire semester. It will be due the class period after we finish the section that it covers, which will be about every 1.5 weeks (sometimes more often sometimes less often). There are 4 questions on each assignment and each are worth 5 points. Every question requires an explanation. This could be your math (showing all your work) or it could be a written explanation describing why your answer is correct. An answer of yes, no, a, b, c... alone is not a complete answer.

Lab write-ups will be expected at least every week (depending on how the labs are done in class). These will be done through the program pivot interactives. Use the link at the beginning of the syllabus to create your account. It will cost you \$10 to join the class.

Quizzes will be given at least once a week. They will cover material that has been address in the current class, or material covered during the few classes before. Also, material builds on itself during the semester, so ideas presents at the beginning of the semester will be important later in class as well, and therefore could appear on later quizzes.

Journals will be something that you will need to do on a weekly basis. You will be turning in the journals every other Friday. What I am looking for is reflection of what you have learned, struggled with, etc. during the week. This is NOT a re-writing of your notes. I want you to truly reflect on what you have learned and how you think on it. I want to read about the areas where you are struggling with the material presented each week (and this will be expected, because there are always some kinds of struggles). Maybe reflect on the issues you had with a quiz, example, topic, etc. You can submit your journal in either of the following formats:

1. A Rocketbook file
2. PDF document. Either handwritten notes scanned or typed and convert to a PDF

I am looking for more than just a sentence or two. I want true reflection. I have read studies about other physics and math courses around the country that are doing this and the grades of those that truly participate in this have higher grades and better understanding.

Celebrations of Knowledge – These will cover 3 to 4 sections of material and will allow you to celebrate what you have learned about those topics.

Project – Possible pinhole camera multiweek lab/project. This is still in the works.

Late work policy - Work submitted late will have a deduction taken off of it 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

Grade Scale

This is the grading scale:

88% - 100% A

75% - 87.9% B

62% - 74.9% C

50% - 61.9% D

below 50% F

Response Time

Students can expect a response time of 48 hours 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). If you then miss the third class in a row you will be dropped right away.

Instructional Contact Hours (Seat Time)

This is a four (4) credit-hour course. Plan to spend at least five hours and 30 minutes on course content or seat time (direct instruction including labs) and eight hours on homework/labs/projects weekly. This is an average. Some weeks will be less and others may be more.

Online Tutoring and in person tutoring

SCC's tutors are available online and in person to help with your courses. You may work with an SCC tutor remotely using Google Meet, your phone, or email. Visit the [SCC 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.

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.