Course Information

Semester & Year:	Spring 2024
Course Title:	University Physics 2
Course Prefix & Number:	PHY 131
Section Number:	15636 / 15637
Credit Hours:	4/0
Start Date:	01/16/24
End Date:	05/10/24
Room Number:	NS 404
Meeting Days:	Tuesday and Thursday
Meeting Times:	12:00-2:50
Google Classroom Link: [f27v5ag](https://classroom.google.com/c/NjQ2NjQ5NDIwODQx?cjc=f27v5ag)	[https://classroom.google.com/c/NjQ2NjQ5NDIwODQx?cjc=](https://classroom.google.com/c/NjQ2NjQ5NDIwODQx?cjc=f27v5ag) – Class code: f27v5ag

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 and NS 132

Office Hours: Mondays: Noon – 1:15 (most weeks) - online

Tuesday: None

Wednesday: 12:00-1:00 (I hope)

Thursday: 2:50 – 4:00 – NS 123

Friday: 9:00 – 12:00 (most weeks) – online most weeks

Course Description

Electric charge and current, electric and magnetic fields in vacuum and in materials, and induction. AC circuits, displacement current, and electromagnetic waves

Prerequisites

Prerequisites: A grade of C or better in MAT230 or MAT231 or permission of Department or Division and PHY121. Corequisites: MAT241 or permission of Department or Division.

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-IV)

4. Work effectively in collaborative groups. (I-IV)
5. Solve practical engineering and science problems. (I-IV)

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.

Print:

ISBN-10: 1-938168-16-X

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

Digital:
ISBN-10: 1-947172-21-2

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

iBooks:

ISBN-10: 1-947172-27-1

ISBN-13: 978-1-947172-27-2

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 – I will be doing a couple hours a week online using Webex. 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.

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.

1. 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:
   a. If you have a smart phone linked to the account you use for our class all assignments will appear on your personal google calendar.
   b. 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.
   c. Easy to return work. After I grade it, I can simply push "return" and you get the work back with comments.
2. Google Documents – for group work assignments
3. 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. And alternative would be if you own an actual scanner. May be helpful on some labs.
4. 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.
5. Rocketbook and App

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.

No Generative Artificial Intelligence (AI) Allowed

In this class, all work submitted must be your own. The use of generative AI tools will be considered academic misconduct (see Administrative Regulation 2.3.11 1.B(b)) and will be treated as such. If you are unsure if the tool or website you are using is a generative AI tool, please contact the instructor for further clarification before using the tool or website.

Grading Standards & Practices

GRADING:

Homework	20 points each
Homework Reflections	5 Points each
Lab Reports	10 points each
Quizzes	10 points each
Arduinos	10 points each
Journals	10 points each
Celebration of Knowledge	80 points each

Your final grade is determined by adding up points earned and dividing it by total possible points. All work – labs, journals, 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 the assignment to be turned into google classroom to actually grade.

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. The solutions to the questions I post will be posted online once we start the next chapter. 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.

Homework Reflection – after the homework is due you will be asked to reflect on one of the questions on the homework. This will occur AFTER I return your work back to you. You will need to look at the question I ask you to reflect on, look at your solution, look at my solution to the question, and then reflect upon it. What did you do right? What did you do wrong? How can you make sure you don't make the same mistake in the future? Etc. This will be a separate assignment you will turn in online. If you don't turn in the homework you still can earn these points by doing the question on your own and then reflecting upon what you did compared to what I did to solve it. A response of "I did it right." Isn't a reflection. If you did it all correctly still spend some time looking over it and seeing if I did it differently from you and can you see advantages in your method verses my method?

Lab write-ups will be expected at least every week (depending on how the labs are done in class). You can use the provided paper if it is designed for you to write-up your answers, thoughts, etc. on it. They are due 1 week after we do the lab in 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.

Arduinos will require you to do pre-reading of the project for the week. The Arduino book is available on Canvas under file. You will come to class prepared to build the given project. Once you have a working unit your group will earn the points for a completed project that week. On some of the weekly projects there are brain questions and magnifying glass questions that have you think deeper. I want you to answer these in your journals as well. Next there is the extension portion. What I want you to do is find something on the internet (video, website, paper, etc.) that takes the basic idea of what was covered in the weekly project and takes it to the next step. Here is the point breakdown for the Arduino:

Working project – 5 points earned the day of in class

Posting in the Arduino assignment on google classroom an example of an extension of the project concept. I want you to find a video, website, etc. that has done something similar (not the exact same thing) as the concept(s) addressed in the Arduino. Worth 5 points.

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 as a PDF file. 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.

Celebration of Knowledge – There will be 3 CofK during the semester. They will be posted on a Thursday and due Tuesday before the start of class. I expect you to do them without the aid of a tutor (I will be asking our SCC tutors if they have seen any of the questions), if I discover anyone has gotten help from a tutor then the entire class will get a zero. Here is how I am planning to break them up:

        CofK 1 – Electrostatics, E-Fields, Potential, and Gauss's Law
        CofK 2 – Current & Resistance, Circuits, Capacitors
        CofK 3 – Magnetic Force, Magnetic Field, Magnetic Induction

There will be extra credit offered during in the form of projects which will be discussed in class. And you can earn 3 points per journal if you do at least 1 "sample problem" of your own per week (so at least 2 questions per journal)

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. In class you will be required turn your camera on so I can see you and see that you are in class. Also, when I call on you in class you will need to turn on your camera to answer the question I have for you.

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 9-10 hours on homework/labs/projects weekly. This is an average. Some weeks will be less and others may be more.

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 [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.