



# General Physics II Syllabus

## Course Information

### Basic Information

Semester & Year: Spring 2023

Course ID & Section #: PHYS-2B-E4868 (054868)

Instructor: Erik Kramer

Course Modality: Hybrid

Day/Time of required meetings: Thursday 10:05 am – 1:15 pm

Location: HU211

Course units: 4

Textbook: [College Physics](#) published by OpenStax.

### Instructor Contact Information

Office location: HU211

Office hours: Tuesday 11:30 am in Zoom

Phone number: 707 476-4228

Email address: erik-kramer@redwoods.edu

### Catalog Description

A continuation of the study of the structure and language of physics. The subject matter includes electricity and magnetism, optics, and modern physics.

### Course Student Learning Outcomes

1. Analyze and solve problems with the principles of electricity and magnetism involving Coulomb's law, electric fields, electric potential, capacitance, DC circuits, RC circuits, permanent magnets, electric currents, and the induction of electromotive force and electric fields.
2. Analyze and solve problems in physical and geometric optics involving reflection, refraction, interference, and diffraction.
3. Answer basic questions in modern physics involving special relativity, the quantum hypothesis, and the photon model of electromagnetic radiation.
4. Proficiently work with equipment to set up experiments, take measurements, analyze the data with graphs when appropriate and explain what happened based on physical concepts of this course.

The student learning outcomes above are broad statements of what you are expected to be able to do after taking this course. The first three outcomes are about the lecture part of this course and the fourth is specific to the lab part of this course. The modules in this course mostly contain material that is associated with the lecture part of this course except for the lab assignments that occur regularly in most modules. Each module has more specific module level objectives that state what you are expected to be able to do after finishing the lecture material in that module. The lab assignments all pertain to achieving the fourth learning outcome above rather than the module objectives. Moreover, the labs relate more loosely to module objectives in that they are usually about testing some part of the lecture material.

### Prerequisite Course

PHYS-2A

## Accessibility

College of the Redwoods is committed to making reasonable accommodations for qualified students with disabilities. If you have a disability or believe you might benefit from disability-related services and accommodations, please contact your instructor or [Disability Services and Programs for Students](#) (DSPS). Students may make requests for alternative media by contacting DSPS based on their campus location:

- Eureka: 707-476-4280, student services building, 1<sup>st</sup> floor
- Del Norte: 707-465-2324, main building near library
- Klamath-Trinity: 530-625-4821 Ext 103

If you are taking online classes DSPS will email approved accommodations for distance education classes to your instructor. In the case of face-to-face instruction, please present your written accommodation request to your instructor at least one week before the needed accommodation so that necessary arrangements can be made. Last minute arrangements or post-test adjustments usually cannot be accommodated.

I am committed to making this course accessible to all students. That includes making the contents of this course understandable without the use of color, using sufficient color contrast between foregrounds and backgrounds, including closed captioning with video content, including alt-tags with images, and making content accessible to screen reader technology. If you find a part of this course that you cannot access, please let me know.

## Learning Management System

### Canvas Information

The Canvas system is the primary means of delivery for this course. Canvas is used for all aspects of this course. You should plan to log into Canvas multiple times every week.

Log into Canvas at [My CR Portal](#)

For help logging in to Canvas, visit [My CR Portal](#).

For help with Canvas once you're logged in, click on the Help icon on the left menu.

For tech help, email [its@redwoods.edu](mailto:its@redwoods.edu) or call 707-476-4160

Canvas online orientation workshop: [Canvas Student Orientation Course \(instructure.com\)](#)

### Setting Your Preferred Name in Canvas

Students have the ability to have an alternate first name and pronouns to appear in Canvas. Contact [Admissions & Records](#) to request a change to your preferred first name and pronoun. Your Preferred Name will only be listed in Canvas. This does not change your legal name in our records. See the [Student Information Update form](#).

## College & Course Policies

### Academic Dishonesty

In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. In cases involving academic dishonesty, determination of the grade and of the student's status in the course is left primarily to the discretion of the faculty member. In such cases, where the instructor determines that a student has demonstrated academic dishonesty, the student may receive a failing grade for the assignment and/or exam and may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct ([AP 5500](#)) is available on the College of the

Redwoods website. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the [College Catalog](#) and on the [College of the Redwoods website](#).

## **Student Behavior**

Student behavior or speech that disrupts the instructional setting will not be tolerated. Disruptive conduct may include, but is not limited to: unwarranted interruptions; failure to adhere to instructor's directions; vulgar or obscene language; slurs or other forms of intimidation; and physically or verbally abusive behavior. In such cases where the instructor determines that a student has disrupted the educational process, a disruptive student may be temporarily removed from class. In addition, the student may be reported to the Chief Student Services Officer or designee. The Student Code of Conduct ([AP 5500](#)) is available on the College of the Redwoods website. Additional information about the rights and responsibilities of students, Board policies, and administrative procedures is located in the [College Catalog](#) and on the [College of the Redwoods website](#).

In a fully online course, it is important to remember that expectations regarding behavior that would apply in a face-to-face setting generally carry over to the online environment. Disruptive conduct will not be tolerated in any part of the online course. The discussion assignments should be thought of as representing a classroom environment and the standards of behavior described above should be adhered to when posting. In the online modality the instructor's directions come out in the form of the design and structure of the course. The instructor has full authority on the design and structure of the course in the same sense that a face-to-face instructor has on what directions to give in class.

## **Inclusive Language and Diversity**

In this course I endeavor to create a learning environment in which all people from all backgrounds feel comfortable in contributing to discussions and interacting with each other. I encourage the use of inclusive language with mindful respect of differences in background and experience. Diversity in experience is valuable toward learning physics as a community. Moreover, learning physics builds on what we already know about how the physical world works and having a diverse community of learners brings a broader range of experience to draw on. In this class, you have the opportunity to develop your own problem-solving ability in physics as well as grow from seeing how others approach the same or similar problems based on their own, unique thought processes.

## **Grading**

The course grade will be determined based on the grading categories of Quizzes (20%), Discussions (20%), Labs (20%), Exams (20%) and Final (20%). In determining the final letter grade I reserve the right to use '+' and '-' modifiers to letter grades, but I generally use them sparingly. Letter grades will be assigned based on the following percentages earned:

A	90% - 100%
B	80% - 90%
C	70% - 80%
D	60% - 70%
F	0% - 60%

The cut-offs for grades may be lowered at my discretion but will not go up. Your grade information will be available through Canvas throughout the semester.

## **Glitches, Technology Changes, & Syllabus Modifications**

As an instructor I am committed to following my syllabus without changes. However, in the modern world, particularly with a fully online course, glitches can happen, technology can change, or other events beyond our control can happen. If there is a glitch, technology change, other event, or an honest mistake on my part that makes it impossible to follow a syllabus policy as written, I will have to make a change. If a change is made it will be as minimal a change as possible and adhere as much as possible to the intent of the original policy that was changed.

## **Course Details**

### **Course Summary**

This course is the second semester of algebra and trigonometry-based physics. This course is focused on problem solving using the laws, principles, and ideas of physics. The lab part of the course is about how measurements in experiments involving electricity, magnetism, sound, and optics can be used to test the laws, principles, and ideas of physics following the scientific method. The topics of this course include electricity, magnetism, sound, optics, relativity & basic quantum principles.

### **Announcements**

I will use the announcement tool in Canvas to send regular announcements. Make sure that you log in or check the email that your class announcements are forwarded to regularly. Most assignments or assessments happen regularly so not all will warrant an announcement. Nevertheless, I will announce reminders, new kinds of assignments with directions on where to find them, any changes to assignments, and so on.

### **Homework**

Homework problem sets will be provided in Canvas. You will have access to answers to check your work. It is advised to attempt problems fully before looking up an answer. The most important things are to learn methods, strategies, and how to show steps arriving at an answer rather than getting the right answer.

### **Quizzes**

There will be quizzes directly based on homework assignments. Some questions on quizzes will be conceptual in nature and will be based directly on concepts that came up in specific homework questions. Other questions will involve calculation and will be directly related to one of the homework questions in the sense that the same strategies and formulas used to answer the homework question the quiz question is based on will work. The numbers will be different from homework on the quiz question and the details of the situation may also differ. The quizzes will have a built-in time limit and two attempts will be allowed. Please make sure as much as possible that you are working with a reliable connection before starting a quiz.

### **Discussions**

Asynchronous discussions will be assigned and generally require posting as well as replying to other posts. Your first post to a discussion will usually be due before the due date listed in Canvas with the assignment and will be described in the directions for the assignment. Some discussion assignments will focus on problem solving and may involve uploading some form of your problem-solving work, such as scanning and uploading handwritten work. Labs for section V4869 will be done as discussion assignments as well so you can share and discuss your responses to lab questions with classmates.

Discussion assignments that involve problem solving are a very important component of this course and are graded very carefully. The discussion assignments have a detailed grading criterion in the

assignment directions and a Canvas rubric attached with more details on how they are graded. The emphasis is on showing your problem-solving process. Moreover, in this online course the problem solving in discussion assignments are an opportunity for assessment and feedback that might otherwise occur on an assessment done in person. It is therefore crucial to put in effort every week into the discussion assignments, rather than putting that off until there is an exam or quiz.

## **Labs**

This course has two section numbers associated with it, one corresponding to in person labs and the other to online labs.

If you are enrolled in section E4868 of this course, you are required to do your labs in person. In person labs will take place on Thursdays at 10:05 am in HU211. The lab assignments will appear in Canvas in the form of discussion assignments, but your online participation is optional. You should plan to get a composition notebook to record your labs in for in person labs.

If you are enrolled in section V4869 of this course, labs will come in the form of discussion assignments enhanced by video of real measurements and experiments performed in the College of the Redwoods physics lab. There may be optional external simulations linked in lab assignments, but all the information needed for the assignment will be provided in the assignment.

## **Assessments**

Course assessments include exams on the concepts and methods from one or more chapters & labs. Some assessments will be scheduled from the beginning and shown on the Canvas front-page schedule. Others may be announced later in the term, as necessary. If a new assessment is added it will be announced at least a week ahead of when it must be done by. Assessments will usually be delivered with the Canvas quiz tool but may take other forms as well. As much as possible assessments will clearly state what topics they are on, typically based on chapters from the course text and labs that've happened. Note that since much of the grade for this course is based on sustained effort in all aspects of the course, a passing grade on course assessments like exams does not guarantee a passing grade in the course.

## **Finals Week Assessments**

Finals week will focus on final assessment(s). The final assessments may come in more than one online assignment to allow for flexibility in delivery and in how you prepare for different parts. The totality of the finals week assessments is not intended to be more work than a traditional final.

## **Time Expectations**

Your commitment will require at least as much time as you dedicate to a traditional class. A typical four credit hour course requires about twelve hours per week of your time. Conscientiousness, contemplation, attention to details, and skills in reading and writing are critical for success.

## **Late Work**

Ideally your course work should not be completed late when you are keeping with this course, but it is understandable that it may happen once in a while. In some cases, Canvas may not allow late submission to an assignment, so please contact me if this happens. If a situation arises for you that will make it so that you cannot complete something on time, please let me know. Some assignments have a timely posting or submission criterion in them that can be waived if it is late for a valid reason. For assignments that don't have a time-based grading criterion there will be no additional penalty associated with a late submission when it is permitted.

A full list of valid reasons for extended nonparticipation or late work is impossible to make, but the main issue will be whether it is within your ability to control, such as a choice to prioritize doing something else over completing coursework, or due to circumstances outside your control, such as illness, injury, or a family or personal emergency you had to attend to. In general, a pattern of late or missed work due to circumstances that should be within your control is not acceptable. I may ask for some documentation if it is relevant to the circumstance of why an assignment is missing or late.

## **Course Modules & Schedule**

This course is broken into modules with generally one module each week. A summary of the week-by-week schedule of modules is on the front page of the course Canvas shell. Navigation of the contents of each module is most easily done by going to Modules in the Canvas course navigation bar.

## **Integrity Expectations**

The main integrity expectation for all assignments and assessments in this course is that the work is your own work done by you, not someone else. Assignments and assessments are open to resources in this course, the textbook, as well as other online resources, unless that resource involves having another person, remote or in person, doing the assignment or assessment for you. Having another person do coursework for you is a clear violation of The College of the Redwoods Student Code of Conduct ([AP 5500](#)).

## **Drop Policy**

Make sure to post in the “Discussion: Introductions” discussion forum before 11:59 pm on Wednesday of the first week to confirm that you showed up in this online course. You may be dropped from the course if you are not attending and not making progress in the course. If it is your intention to drop, you should make sure to do that as it may not happen automatically.