

Physics 22 - Summer 2020

1 Credit, Pre-requisite or co-enrollment of Physics 12.

Course format: Online classes with experiment performed at home.
You **MUST** buy the equipment kit to perform the experiments.

Lab Coordinator: Dr. Donforth

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Office hours online by appointment

Course Objective:

"An experiment is a question we ask the universe." - C.V. Boys

This course provides opportunities for hands-on investigation of the concepts and ideas of an introductory physics course focused on electricity and magnetism. You will do a series of experiments at home, with a kit you must purchase. You will then have an opportunity to do a research project on a physics related topic that interests you, and present your research to the class. You will exit the course with a more solid understanding of physics and the world around you; and with a greater dexterity in applying physics concepts and calculating expected outcomes.

Required Course Materials:

Kit:

If you intend to take both Physics 21 and Physics 22 this summer, you can save roughly \$50 by buying the kits for both lab courses together:

<https://www.carolina.com/catalog/detail.jsp?prodId=582586>

If you are only taking Physics 22 this summer, you can buy just the equipment for this term at:

<https://www.carolina.com/catalog/detail.jsp?prodId=582585>

The manual for the lab is provided via Blackboard. All of your lab report submissions will be online.

Grading:

Reports will be graded via rubrics that are provided for each experiment. Not all reports are equal weight. Your final grade will be your percentage of the total points available. Letter grades will be assigned to final course averages as follows:

A	+	100-97.00	B	+	89.49- 86.50	C	+	79.49- 76.50	D	+	69.49- 66.50	F	59.49 - 0
		96.99- 92.50			86.49- 82.50			76.49- 72.50			66.49- 62.50		
	-	92.49- 89.50		-	82.49- 79.50		-	72.49- 69.50		-	62.49- 59.50		

The grading for Physics 22 is independent of the grading of Physics 12.

Schedule of Experiments:

You will do one experiment per week in Physics 22 during the first three weeks; with the last three weeks focusing on your research project.

Your lab reports are due at the end of the day each Friday. Your research report will be due on Tuesday to allow for discussion.

Week 1	Sound and Resonance
Week 2	Series and Parallel Circuits
Week 3	Magnetism
Week 4	Research project 1 of 3
Week 5	Research project 2 of 3
Week 6	Research project presentation and discussions

Your TAs will have online time to help you with the experiments. You are not required to attend classes, but you are strongly encouraged to discuss things with your TAs and reach out if you encounter difficulties.

There will be no final in Physics 22.

Reports:

Each report must be submitted as a single PDF document, and late reports will not be accepted. It is your responsibility to ensure your report uploads and is legible to your TA.

Reports do not need a rote recitation of procedures, but should address the questions posed.

Write in complete sentences. Include enough context that someone reading your answer would know the question you are addressing even if they hadn't read the question.

Prerequisites:

This laboratory course is designed to accompany Physics 12. Students registered in Physics 22 must now be enrolled in Physics 12 or have previously completed Physics 12, 125 or 152. Physics 22 labs require a background knowledge that is best gained from concurrent enrollment in, or previous completion of, the accompanying lecture course Physics 12. For this reason, students who withdraw from Physics 12 during the add/drop period must also withdraw from Physics 22 or risk being disenrolled.

Students withdrawing from Physics 12 after the end of the Add/Drop period may remain enrolled in Physics 22 Laboratory, but are expected to independently continue their study of the Physics concepts relevant to each laboratory experiment. Failure to do so may seriously jeopardize their chances of successfully completing Physics 22.

Reminder: Add, Drop or Section Changes must be done using the UVM Registrar's web page, or directly through the Registrar's office.

Attendance:

This class will be offered asynchronously; with the manual provided to you and you free to perform the experiments on your own time. You are not required to attend class, but we strongly encourage you to make use of the dedicated time that your TAs will be available online. You are also welcome to discuss the experiments and results with your peers in the class, but you must perform and write-up the experiments yourself.

Accommodations:

In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact [ACCESS, the office of Disability Services on campus](#). ACCESS works with students to create reasonable and appropriate accommodations via an accommodation letter to their professors as early as possible each semester. Contact ACCESS: A170 Living/Learning Center - 802-656-7753 - access@uvm.edu.

Religious Accommodations:

Students have the right to practice the religion of their choice. If you need to miss class to observe a religious holiday, please submit the dates of your absence to me in writing by the end of the second full week of classes. You will be permitted to make up work within a mutually agreed-upon time.

Academic Integrity:

Students are expected to comply with the [University's Code of Academic Integrity](#). Please consult the website of the “Center for Student Ethics & Standards” for details. In addition to the matters described there, please note that it is a serious offense to submit a report, or use data, from an experiment in which you did not actively participate. Cooperation with laboratory partners is encouraged during the setting up and data gathering parts of each experiment, but your analysis, conclusions, and write-up must be your own individual work. Plagiarism and collusion will be referred to the Office of Academic Integrity.

Blackboard:

To log on to blackboard, go to <https://myuvm.uvm.edu> and enter your net ID and password. Once you've logged in there, select Blackboard from the top row of icons; then select Physics 22 from your courses.