

**Physics 4B**  
**Physics for Scientists and Engineers**  
**Electricity and Magnetism**  
Fall 2021

Online Lecture MTWRF 9:30am – 10:20am  
through Canvas, ConferZoom

Instructor:

Kasra Khazeni

Office:

Online

Contact:

email: khazenikasra@fhda.edu

Office Hours:

TH, 10:20 am to 11:20 am online after class

Text:

Physics for Scientists and Engineers, 9th edition, by Serway and Jewett

Objective:

The purpose of this course is to introduce the concepts of electricity and magnetism. This course relies heavily upon setting up integration problems (and solving them) and vector analysis. It also develops the basic equations of electricity and magnetism referred to as "Maxwell's Equations" as well as elementary (DC and AC) circuit analysis using Kirchoff's Laws.

You can use either your cell phone, iPad, or computer for online instructions. No personal cell phone use during exams. You will require a SIMPLE calculator with scientific notation; Exams will be live online while we are all in session on Zoom, with both microphones and cameras turned on. I need to be able to see you work on your exam.

Quizzes:

There will be one quiz every week. No makeup quizzes will be permitted. Instead, the lowest quiz grade will be dropped at the time course grades are being determined.

Exams:

There will two exams 1/3 and 2/3 into the quarter. No makeup exams will be permitted. The dates will be provided later.

### Cheating Policy:

Cheating on a quiz, or the final, will result in an automatic "F" on that test, with two incidents of cheating resulting in an automatic "F" in the class. Since everything is online, it is easy for an instructor to detect cheating. Please be advised that there are various online tools and search engines for that purpose, along with sites that can easily be checked for uploaded exams and questions such as Chegg.

### Homework:

Suggested problems from the book will be assigned at the end of each chapter, which will not be required to be turned in, but it is strongly suggested that you work them out and become comfortable with recognizing the type of problem it represents and its solution. Working out the HW problems is one of the best ways to be prepared for the weekly quizzes and the final exam. Please feel free to come and see me to discuss homework problems if you have any questions.

### Grading:

Final grade:

88% - 100% = A  
76% - 88% = B  
64% - 76% = C  
50% - 64% = D

Breakdown of the final grade:

Quizzes = 45%                      1/2 hour, 1 or 2 problems, one quiz every week  
Exams = 20%  
Lab = 15%  
Final = 20%

There are no make-up exams, quizzes, or the final.

**Student Learning Outcome(s):**

\*Critically examine new, previously un-encountered problems, analyzing and evaluating their constituent parts, to construct and explain a logical solution utilizing, and based upon, the fundamental laws of electricity and magnetism.

\*Gain confidence in taking precise and accurate scientific measurements, with their uncertainties, and then with calculations from them, analyze their meaning as relative, in an experimental context, to the verification and support of physics theories.