Physics 4B – Electricity and Magnetism– Spring 2022 – Eiteneer
SYLLABUS

INSTRUCTOR
Dr. Daria N. Eiteneer
I go by Daria or Dr. Eiteneer, or Professor Eiteneer. I will NOT respond to any communication starting with Ms., or Mrs.
Contact: Send me a message on Canvas first, give me 24-48 hours to respond before sending another message (excluding weekends). Once Canvas course goes live, I will not respond to any email communication, unless I specifically direct you to email me.

MEETING TIMEs (all via Zoom – see Canvas for Zoom link)
Lecture: MTWThF 1:30-2:20pm
Lab 03Z: W 2:30-5:20pm
Lab 04Z: M 2:30-5:20pm

As you know, this is an ONLINE class – and it will be SYNCHRONOUS. What that means, is that there will be mandatory times to meet online every week – see Meeting Times above. I will also hold online Zoom Office Hours (day/time TBA). The lectures, labs, and OH sessions will be recorded, and recording posted on Canvas. This however does not mean that you can choose not to come to lectures/labs - your attendance of these meetings is mandatory. In Lecture, I will answer questions and go over the main ideas of lectures, and worksheets that we are going to be doing that week. In Lab, I will go over the main idea of that week's lab, including demos, and do practice problems; you will also work on your worksheets and lab data analysis during that time. ALL MATERIAL WILL BE POSTED ONLINE IN ADVANCE (usually on Monday mornings).

Requisites: PHYS 4A; MATH 1C or MATH 1CH (may be taken concurrently).
Advisory: EWRT 211 and READ 211, or ESL 272 and 273.
Hours: Lec Hrs: 60.00, Lab Hrs: 36.00, Out of Class Hrs: 120.00, Total Student Learning Hrs: 216.00
Catalog Description: This course introduces classical electromagnetism and includes DC and AC circuits and elementary field theory.

RESOURCES

Mastering Physics (required): You need MP to gain access to homeworks, tutorials and some other material. It is available in a bundle with the textbook through the bookstore. You can also purchase it separately from the textbook, by clicking MyLab and Mastering tab on the left in Canvas, and then registering for the MP course.

Text (highly recommended): Serway/Jewett, 9th ed. (loose leaf edition is available at the bookstore, hard cover and older editions are available on Amazon).

ISBN: 9781133954057

Note that there is an electronic copy of the textbook included in MP (see below), but I strongly encourage that you get a hard copy of the textbook as well, as we will have reading quizzes and some conceptual questions on exams that will be based on the textbook. The assignments will be based on the 9th edition of the textbook, but other editions will work for reading as well. There are many other comparable books that would work for reading as well, please contact me if you'd like me to recommend a couple of those to you.

Other: In addition to the above, you need a calculator (scientific or graphing), and a ruler. A protractor is highly recommended. If you cannot purchase a ruler and a protractor, you can download one of the many apps available for smartphones, or find a printable one on the internet.

Tutoring: De Anza's tutorial center is currently closed, but online services are available. Check at https://www.deanza.edu/studentsuccess/onlinetutoring/. Other campus services can be found as part of the student success center as well: http://www.deanza.edu/studentsuccess

Disability Support Program and Services: DSPS can help you get the right tools to succeed. Please check their website for current services and assistance: http://www.deanza.edu/dsps/

A note on inappropriate resources: There are many "study assistance" services available to you, some paid, some for free. In any case, any service that provides you an answer on demand is destructive to the learning process and unacceptable in this class. You always want to reach for "knowing how to solve" a question as opposed to "getting the answer" to it. Using websites like Chegg, CourseHero, Slader, and Reddit in this manner is specifically prohibited in this class. Using these sites may get you through this course, but will inevitably handicap you in later quarters of physics or in more advanced courses that rely on this foundation. Likewise, and this should go without saying, having anyone else complete your assigned work for you is unacceptable and ultimately self-defeating. Utilizing any of these resources or having another student complete your work may result in being assigned a failing grade for the course.

ASSESSMENT

- **Laboratory activities 10%**
- **Homework (on MP) 10%**
- **Worksheets 5%**
- **Discussions 10%**
- **Weekly quizzes 10%**
- **Midterm exam 25%**
- **Final exam (comprehensive) 30%**

Grading this semester will be based on a 5-point scale (4.01-5.00 is an "A", 3.01-4.00 is a "B", 2.01-3.00 is a "C", 1.01-2.00 is a "D", 0-1.00 is an "F"), which may be modified slightly at the end of the semester.

Exception: if you turn in less than half of the assignments in any of the above categories, the highest grade you can possibly earn will be a "C". If you miss either the midterm or the final exam, you will get an "F" in the course.

COURSE STRUCTURE

Homework: There will be two ways of earning homework credit in this class (see below). Whichever way you choose, homework assignments will be assigned approximately weekly (you can expect approximately one r two homework assignments per chapter). Each assignment will consist of about 15-20 problems, as well as some conceptual questions. It is suggested that you start working on the homework early, as some problems can be time-consuming. In addition to submitting your answers online, it is strongly recommended that you keep a notebook in which you record all of your work for each question/problem. Absolutely no homework will be accepted after the deadline, so plan to complete the work accordingly. The homeworks will be due Tuesdays at 11:59pm, unless announced otherwise. One lowest homework score will be dropped.

Mastering Physics: this is an online platform that will allow me to assign homework, as well as supply you with additional tutorials and practice exercises (which will not be graded), as well as possible extra credit problems. This homework will be given out of a different textbook (**Young and Freedman, 14th ed., ISBN-13: 978-0321973610)**.

"Paper Homework": These homeworks are to be done using the RECOMMENDED book (Serway/Jewett, 9th edition - described earlier), scanned and submitted by the due date. These homeworks will mostly be graded on completion, but there will likely be one problem in each homework chosen at random which will be graded on correctness.

You can only choose to do ONE homework for credit (either MP Hw or Paper Hw), but you can make a different selection every week, if you'd like. However, the way that Canvas is structured, if you choose to do the MP Hw, it will count that one for a grade. I will adjust all the homework grades accordingly, at the end of the quarter.

Groups: Each week I will break you up into groups (separately in each lab section, by random draw), with no more than 4 students per group. Please do not try to rearrange the groups or attempt to make your own. For that week, you will work with your group, and it will be your responsibility to get ahold of other group members (you can do so on Canvas, by clicking People tab on the left). **Do not give out your phone numbers to your group - use Canvas, Google Drive, or school email**. Try to get in touch with your groups early in the week, so you are not as hard pressed for time to get all the work done. If, for some reason, you have a group member who is not responsive to other members' attempts to contact him/her/them, I need to know about it ASAP. Every person in the group needs to pull their own weight, or risk getting a zero. The group will be responsible for turning all of that week's laboratory assignments and worksheets, unless otherwise directed. It will be up to each group to divide the work between the group members, don't ask me for help in that – you can figure out among yourselves who is responsible for what part. You will turn in all the group assignments as a group, with all the group members names submitted in the "comment" box and/or on top of the first page. The worksheets and the labs will be due Tuesdays, at 11:59pm, unless otherwise specified.

Worksheets: There will be about one (sometimes two) worksheets per week for you to work on with your group. The worksheets will give you practice at solving problems based on the material covered that week in lectures. Most of your problem-solving learning will come from the worksheets. Solutions will be posted on Canvas shortly after the worksheets are due. No late worksheets will be accepted, but I will drop your lowest worksheet grade at the end of semester. The worksheets will be due Tuesdays at 11:59pm, unless announced otherwise.

Lab reports*:* Usually, there will be a laboratory activity per week (see Schedule), with some exceptions. You will work on the lab activities with your groups, unless I tell you otherwise.

Weekly quizzes: There will be a quiz every week, except the week of the midterm exam, and the week of the final exam (tentatively). Each of these quizzes is not worth much (~1%), but they are a great way to check your understanding of the material for that week, as well as to study concepts for the exams. The quizzes will be given

on FRIDAYS. You will have 24 hours to access the quiz. Once opened, you have ONE attempt, lasting 15-20 minutes, depending on the difficulty of the quiz. You may use your textbook and class notes on the quiz, but no outside help (outside help is someone else in this class, a tutor, google, internet, Chegg, etc.). While I generally encourage sharing, group work, and collaboration, a quiz is not a place for that. Quizzes are your own work (see Honor Code statement below). Calculators are allowed, unless otherwise specified. No late quiz submissions and no quiz make-ups will be accepted, but the lowest quiz score will be dropped.

Discussions: There will be a discussion question posted every week. To get the most out of each module's resources, you will participate in a discussion using the Canvas Discussions tool (see tab on the left). Each student will be responsible for a minimum of one initial post and three replies, all of which will get up to 3/5 points. The remaining 2/5 points will be given based on how well you can keep the thread going, and how well you respond to the classmates' prompts and responses. That means responding to responses. These don't have to be long, a quick word of encouragement, or something along the lines of "I never thought about it this way" or "That's an interesting example" or answering the question someone else asks, all would work great. There is a difference between the initial responses and the "keep discussion going responses": in your initial responses to the classmates, try to include a bit more details and a bit more science. A short one-sentence comment is great to "keep discussion going" but I want to see some more thought behind "your example is great." What did you like about it?

All the initial posts for DQs will be due Fridays at 11:59pm, and all the responses to classmates will be due Sundays at 11:59pm. No late DQ submissions will be accepted, but the lowest DQ score will be dropped.

***Note:* the weekly timing of homeworks, worksheets, quizzes, labs, and discussions may be adjusted if I feel like a change would benefit the class.**

Exams. There will be a midterm exam and a final exam (see Schedule). The exams will be given during class time (details TBA), and will contain two parts: a TIMED portion (consisting of MC/TF/FIB/Short answer and quick calculations) and UNTIMED problems (consisting of 4-6 problems for which you will have to upload your work). For the TIMED portion, once opened, you have ONE attempt, lasting 60-75 minutes, given during class time. For the UNTIMED portion, you will have the entire 24 hours to work the problems, and you will have to upload your work for these. You may use your textbook and class notes on each exam, but no outside help (outside help is someone else in this class, a tutor, google, internet, Chegg, etc.). While I generally encourage sharing, group work, and collaboration, an exam is not a place for that. Exams are your own work (see Honor Code statement below). Calculators are allowed. Absolutely NO LATE work, for ANY reason will be accepted for either of the exams.

Note: If you have a disability and/or require extra time on the quizzes and/or exams, contact me early during the term, so I can make provisions for that on Canvas.

ATTENDANCE AND PARTICIPATION

Please come to zoom sessions, and ask lots of relevant questions and thoughtfully contribute to class discussions! If your grade ends up being borderline at the end, I will consider your participation: contributing to the problem solving and asking questions in office hours. I will also be checking your participation hours (Canvas will tell me how much time each of you spends on Canvas weekly), and will factor that into the participation.

SUGGESTIONS TO DO WELL IN THIS COURSE

- **Work** – Your learning will be proportional to the effort you put in; don't expect to just listen to the lectures and "soak in" the material. You need to work out your own understanding of the material, as well as participate in all of the assignments.
- **Work together** – Collaborate with other students in productive ways. When collaborating, however, beware of copying or plagiarizing. Every week, in the beginning of the week, I will break you into laboratory groups for that week. You will be responsible for completing the lab assignment with your group, on your time. It will be up to you to divide up the work and to collaborate to set up the time and the means by which you will be working on the lab.
- **Take notes** – Take effective notes during lectures, don't just rely on the pdfs.
- **Read ahead** – Before listening to the lectures or coming to the problem solving session, skim the material in the textbook.

ACADEMIC DISHONESTY

Plagiarism is the largely word-for-word use of text or other material taken from a source without crediting that source. Copying from a classmate or any other source may seem like a good idea at the time, especially if you did not study or if you run out of time to do an assignment. Before you consider any form of academic dishonesty, consider the following:

- This not only applies to copying from other people, but also from any texts, books, or other resources.
- Make sure you don't copy, and no one else copies from you.
- If copying is detected when grading your work (any work—homework, exam, etc.), not only will you receive a score of "0" but so also will the person from whom you copied – two zeros for the price of one! Upon second offense, you will also receive a letter from the campus discipline officer notifying you that a discipline file has been created in your name.

Honor Code. There will be an Honor Code statement included into each quiz and each exam. By initialing the Honor Code statement, you agree to not cheat on that quiz or exam, to put it plainly. Cheating includes, but is not limited to, using resources that are not allowed (basically anything besides your book, lecture notes, and calculator), collaborating with other students, getting help from a tutor (online or otherwise), getting help from any online programs (such as Chegg, etc.), using google or internet to search for the answers. If the Honor Code statement is left blank, you will receive a zero for that quiz or exam. If I suspect any cheating and/or plagiarism (and yes, I WILL KNOW), I will set up a Zoom appointment with you, which you will be required to attend, with a working microphone and camera. If you do not attend that appointment, I will fail you. If, during that appointment, you are not able to assuage my suspicions, I will fail you.

If you have any questions, please send me a message on Canvas or ask during office hours.

OTHER THINGS YOU SHOULD KNOW

- It is your responsibility to know what announcements were made on Canvas and what subject was covered in lectures. It is your responsibility to check your Canvas for class announcements, and to keep up with Canvas regularly. New stuff will be posted almost daily.
- If you have a disability and required accommodations, you need to provide disability documentation to DSPS. Please discuss your accommodation needs with me early in the semester.
- If you decide to drop the class for any reason, it is your responsibility to officially drop the class from your schedule. If you do not officially drop, you will receive a grade of "F" at the end of the semester. You may drop during the first two weeks for any reason. After the first two weeks of class, dropping the course requires instructor permission and will be approved only for serious and compelling reasons. Not doing well in class is not a compelling reason.

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.