

## DE ANZA COLLEGE-PHYSICS-4B-FALL 2016

**Instructor:** Yufeng Sun  
**Email:** [sunyufeng@fhda.edu](mailto:sunyufeng@fhda.edu)  
**Office hours:** TWR 12:30 – 1:20 pm (S13)  
**Lecture hours:** MTWRF 1:30pm – 2:20pm (S35)  
**Final exam:** Tuesday 12/13/2016 1:45pm – 3:45pm  
**Textbook:** Physics for scientists and engineers 9<sup>th</sup> edition by Serway & Jewett  
**Prerequisites:** Physics 4A with a grade of C or higher, Math 1B with a C or higher, and concurrent enrollment in Math 1C.

*Note: Last day to drop a class with a ``W`` is Friday Nov.18. Students who do not drop by this date will be given the appropriate grade for their achievement in the class at the end of the quarter.*

### **Objective:**

This is a calculus-based physics course. The main objective is for student to learn the fundamental principles and applications of classical electromagnetism, and basic laboratory experiments supporting the covered theoretical principles. After completing this course, students will be able to demonstrate knowledge of the following topics:

1. Articulate the fundamental concepts of electricity and electromagnetism, including electric potential energy, electric potential, potential difference, magnetic field, induction, and Maxwell's equations in integral form.
2. State the general nature of electric forces and electric charges, and their relationship to electric current.
3. Solve problems involving the inter-relationship of electric charges, electric forces, and electric fields.
4. Apply Kirchoff's laws to analysis of circuits with potential sources, capacitance, and resistance, including parallel and series capacitance and resistance.
5. Calculate the force on a charged particle between the plates of a parallel-plate capacitor.
6. Apply Ohm's law to the solution of problems.
7. Describe the effects of static charge on nearby materials in terms of Coulomb's law.
8. Use Faraday's and Lenz's laws to find the electromotive forces.

### **Attendance:**

You are expected to be in class at the beginning of each class. An attendance sheet will be passed at the beginning of class. If you miss signing the attendance sheet five or more lectures you may find yourself dropped from the class. However, it is your responsibility to ensure being dropped or withdrawn from the course in order to avoid an "F" in the course if you stop attending lecture or lab.

### **Homework:**

Homework for each chapter will be assigned when we start the chapter and will be collected in due date. Each time, for only about 20-30% selected students, their homework will be graded based on the correctness, completeness, and seriousness of their work. For those students whose

homework is not graded, they will receive a full credit of their work. However, if you did very poor job (such as missing some problems, not showing details, copying somebody's work, and etc.), your homework will be graded although you are not initially on the selected list. If you do not turn in your homework on the due date, your score for that homework will be zero. No late homework will be accepted. At the end of quarter, the lowest homework score will be dropped.

**Quizzes:**

There will be a 10-minutes quiz every week. The quiz day will not be announced in advance. It can be any day in the week and starts at the beginning of the lecture. There will be one to two multiple choice problems in each quiz, which cover the materials in the two previous lectures. If you miss a quiz you will receive a zero for that quiz. There will be no make-up quizzes. At the end of quarter, the lowest quiz score will be dropped.

**Exams:**

There will be three in-class midterm exams and a comprehensive final. Exact dates for exams are indicated in the course schedule. If there is a date change for a scheduled midterm exam, you will be told at least four days in advance. The key to the success on the exams is preparation: read the textbook and make sure you understand it, ask questions if you don't understand, do the homework, and attend the lecture. There will be no make-up exams. If you miss an exam you will get a zero for that exam. At the end of quarter, the lowest midterm exam score will be replaced by the average of the three midterm exam scores. However, you must take all three midterm exams in order to replace the lowest exam score by the average of the three scores. Each midterm exam has 4 or 5 workout problems which need to be completed in 50 minutes. Your solutions should show your step-by-step process and logic that was used to obtain the answer. No credit will be given if no work is shown even if you obtain the correct answer to the problem.

**Academic Integrity:**

A student caught cheating on any quiz or exam will receive a score of zero. If there is a dispute in the grading of any exam, I will consider looking at the exam paper a second time only if it is handed to me within 2 school days after you receive the graded paper.

**Grading:**

Grades will be based on the following components with the weights shown:

Quizzes	15%
Midterm Exams	30%
Homework	15%
Lab	20%
Final	20%

Grades will be determined as follows:

88%	----->	100%=A
76%	----->	87%=B
65%	----->	75%=C
54%	----->	64%=D
0	----->	53%=F