Instructor

Professor Kam-Biu Luk

Email address: k_luk@berkeley.edu

Office: 427 LeConte

Office Hour: 427 LeConte, 14:00 – 16:00 (Monday), or email to make an   appointment.

GSI

██████████

Email address: ██████████████

Office hours: ██████████████████████████████

Discussion Sections

Tuesday   18:00-19:00   Barrows 170

Wednesday   15:00-16:00   Cory 247

Tutoring Sessions

Tutor: ██████████

Tuesday   13:00-16:00   ██████████

Thursday   14:00-16:00   ██████████

Objectives

The main objective of this course is to utilize more advanced mathematical techniques to develop deeper understanding of the electromagnetism and optical phenomena. Besides learning the theoretical concepts, applications will be included.

Prerequisites

Math 53 and 54, Physics 5B or 7B, or their equivalent courses; or permission of instructor

Required Textbook

J. Griffiths, 'Introduction to Electrodynamics', 4th edition, Cambridge University Press (2017).

References

1. J. D. Jackson, 'Classical Electrodynamics', 3rd edition, CambridgeUniversity Press (1998).

    It is the authoritative advanced textbook and reference on this subject for all physicists.

2. A. Zangwill, 'Modern Electrodynamics', Cambridge University Press (2012).

An advanced textbook contains many interesting examples. It is not quite as comprehensive as Jackson but easier read.

3. E. M. Purcell and D. J. Morin, 'Electricity and Magnetism', 3rd edition, Cambridge University Press (2013).

    This is the best textbook for the first course on electricity and magnetism.

Website

https://bcourses.berkeley.edu/courses/1474920

This site contains the course information, announcements, assignments and solutions, and grades.

Assignments

There will weekly problem sets that will not be graded. You don't have to submit your work. However, you should work through the problems to make sure you understand the materials. You are encouraged to solve the problems with your peers and discuss them during the discussion section. The solutions will be posted in the bCourses web site after the due date. The assignments do not contribute to the final grade of the course.

Examinations

There will be three midterms that are scheduled to take place on September 25 (Tue), October 18 (Thu), and November 13 (Tue). There will be no lecture on those days. Roughly about half of the problems in the midterms will be selected from the assignments.The final examination will be on December 11 (Tue).

Grading

The midterm with the lowest score will be dropped before the final grade is determined. The final score of the course will be based on the performance of two midterms (25% each), and the final examination (50%).

Honor Code

As in every class at Cal, all students are expected to abide by theBerkeley HonorCode: "As a member of the UC Berkeley community, I act with honesty, integrity, and respect for others." You are expected to adhere to this code. Any student gets caught cheating or assisting cheating in a midterm or final examination will automatically fail the course and will be referred to the University Center for Student Conduct for disciplinary action.