

General Information
PHGN361

Coordinator: Frank Kowalski
Office 438 Ph. 273-3845

Text: *Introduction to Electrodynamics: Third Edition* by David J. Griffiths.

Prerequisites: PHGN200 and PHGN311.

Learning Objectives: The purpose of this course is to (a) develop analytical skills, particularly with regard to vector calculus (b) improve understanding in fundamental concepts (b) mesh the the latter with the former. The overall student learning objective is to become scientifically literate, that is, to have the contextualized knowledge and analytic skills necessary to construct an understanding of real world phenomena in the domain of electricity and magnetism.

Topics: Static electric and magnetic fields in free space, dielectric materials, and magnetic materials; steady currents; scalar and vector potentials; Gauss's law and Laplace's equation applied to boundary value problems; Ampere's and Faraday's laws.

Grades: Tentatively, we will have four hour exams (Exam I Feb. 2, Exam II March 4, Exam III April 6, Exam IV April 27) plus a final all will contribute 70% of the final grade while the homework will contribute 10% and class participation 20%.

Homework: Problem assignments will be made and collected on a weekly basis. Four exams and a final will be given. They will cover your understanding of the homework and lectures. You may consult me or other students about any homework questions. However, direct copying will be treated as academic dishonesty.

Homework due at the beginning of class Jan. 19

1. Chapter 2: problems 1-12

Homework rules

1. Write a statement of the assignment (chapter number and problem numbers) at the top of the first sheet.
2. Write your name in block letters, last name first.
3. Draw a line at beginning and at the end of each problem.
4. Only when explicitly stated for a particular problem in the homework assignment will you need to do the following. Box in , , and write the appropriate solution below each of these boxes.
5. Include a well-labeled diagram where appropriate and work each part to an answer.
6. Staple pages together with problems in numerical order.
7. If the work presented is not legible to the grader then credit will not be given.