

General Information

PHGN462

Coordinator: Frank Kowalski

Office 438 Ph. 273-3845

Texts: *Introduction to Electrodynamics* by David J. Griffiths and *Introduction to Modern Optics* by G. R. Fowles

Prerequisites: PHGN200 and PHGN361.

Topics: Electrodynamics with applications in optics and relativity.

Grades: A midterm and final exam will contribute 30 %, homework 40 %, and class participation 30 % of the final grade.

Homework: Problem assignments will be made and collected on a weekly basis. You may consult me or other students about homework questions you might have. However, direct copying will be treated as academic dishonest.

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. Circle the problem number, box in answers, and draw a line at the end of each problem.
4. Include a well-labelled diagram where appropriate and work each part to an answer.
5. Staple pages together with problems in numerical order.
6. You may look up integrals without explicitly doing them. However please cite where the integral comes from (i.e. Dwight "Tables of Integrals and other Mathematical Data" page, Mathematica, etc.).
7. If the work presented is not legible to the grader then credit will not be given.

Physics 462, Summer 2005

Homework 1

1. Calculate the first two terms in the perturbative expansion for the magnetic field and the first three terms for the electric field for a parallel plate capacitor problem done in class (harmonic time dependence of the electric field).
2. Griffiths: Chapter 1: Problems 49.
3. Griffiths: Chapter 7: Problems 58.
4. Griffiths: Chapter 8: Problems 1, 2, 4, 5, 6, 7, 8(a) and (b), 11.