

Prerequisites: Physics 71500 or the equivalent.

Text: J.D. Jackson, Classical Electrodynamics, 2nd or 3rd ed.

Syllabus: Selected sections in Jackson.

- i) Wave guides and cavities
- ii) Radiating systems
- iii) Spherical multipole fields
- iv) Scattering
- v) Special relativity and electromagnetism
- vi) Fields of point charges
- vii) Classical electron theory
- vii) The Darwin Lagrangian, and Hamiltonian formulations of classical electrodynamics

"Students should learn basic aspects of graduate-level electromagnetic radiation theory as outlined in the second half of Jackson's text."

Homework: i) Homework sets are assigned regularly and are due at the time scheduled. Students may discuss the homework with others but must turn in their work in their own handwriting.

Homework submitted on time will be graded.

ii) Homework which is not turned in on time should be submitted as soon as possible and at least before the final exam. Late homework will not be graded but merely checked off as having been turned in.

iii) Any student whose homework record is not complete by the time of submission of final grades will be given a grade of incomplete or else penalized by 2/3 a grade on the final grade. Thus, an A+ becomes an A-, an A becomes a B+, etc.

Exams: i) There will be two exams during the semester and a final.

ii) All students are expected to appear on time for all exams.

iii) Material for exams will include questions taken straight from the homework, examples covered in lecture, and new questions similar to those in the homework and lectures.

Grading: i) The grade will be determined based on an average of the exam grades counting 80% and an average of the homework scores counting 20%.

ii) When a student is on the borderline between two grades, then general homework record and class attendance will be considered in determining the grade.

Timothy Boyer tboyer@ccny.cuny.edu

Office Hours: Monday, Wednesday 1:00-1:30 pm in MR 331 at City College

Tuesday, Thursday 1:00-1:30 pm in 4323 at the Graduate Center

c:\courinfo\Phys716-2022.doc