

Physics 650

Classical Electrodynamics I

Instructor: Jason Kumar
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Class meets:
M W F 9:30am-10:20am
WAT 417A

Required Textbook:
Classical Electrodynamics, 3rd Edition, J. D. Jackson

Topics to be covered:

Electrostatics

Techniques for finding static solutions to Maxwell's equations, including Greens' functions, the method of images, use of separable variables, and expansion in orthogonal functions

Multipole expansion

Magnetostatics

Electrostatics and magnetostatics in matter

Grading:

The course grade will be based on homework and exams

60% -- homework

20% -- midterm

20% -- final

Student Learning Outcomes:

At the successful completion of this course, students will be expected to:

- 1) Understand advanced concepts in electrostatics and magnetostatics.
- 2) Understand advanced mathematical techniques for solving problems in classical electrodynamics.