Physics 408b: Electricity and Magnetism

Syllabus

1 Class and Instructor Information

Clifford V. Johnson
Room SSC 201
tel: 213 821 1772
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class webpage: http://physics.usc.edu/~johnson1/phys408b/
office hours: SSC201, MW 10:00am–11:00am
Class location: KAP 137 MWF 9:00pm–9:50pm

2 Textbooks

The primary source of our material will be the course recommended text:
A well-known more advanced source of material is:

3 Topics

We will continue from where the Physics 408a class left off. We’ll start at Chapter 7 of the book.
Topics will include (but not be limited to):

**Electrodynamics:** Electromotive Force, Electromagnetic Induction, Maxwell’s Equations.

**Conservation Laws:** Energy, Charge, Momentum.


**Potentials and Fields:** The Potential Formulation, Continuous Distributions, Point Charges.

**Radiation:** Dipole Radiation, Point Charges.

**Electrodynamics and Special Relativity:** Special Relativity, Relativistic Mechanics, Relativistic Electrodynamics.

4 Assessment

There will be homeworks assigned every week, to be handed in the following week. These will be graded and returned the week following that one. There will be two midterms and a final. Participation during
class is important. You will be expected to read material before class and prepare to take part in
discussion based on that material, also asking and answering questions verbally, written quizzes, and
in-class problem-solving. Quizzes will not be to a fixed schedule, and will sometimes be taken away
to be graded.

The breakdown of the various parts is as follows:
Homeworks and Classroom Quizzes and Interaction: 40%
Midterms: 40%
Final Examination: 20%

5 Important Note:

Students who need to request accommodations based on a disability are required to register each
semester with the Office of Disability Services and Programs (DSP). In addition a letter of verification
to the instructor from DSP is needed for the semester you are enrolled in this course. If you have any
questions concerning this procedure, please contact the instructor and DSP at STU 301, 740-0776.