DEPARTMENT OF PHYSICS
General Syllabus
Physics 35300
Electricity and Magnetism I

**Designation:**
Required Undergraduate

**Catalog description:**
Review of vector calculus; Electrostatics in vacuum, work and energy, conductors; Laplace's equation and its solution; Electric fields in matter, currents, circuits and dielectrics; Magnetostatics, vector potential.
3 HR./WK.; 3 CR.

**Prerequisites:**
Prereq.: Physics 20800; pre- or coreq.: Math 39100 and Physics 35100 or equivalent

**Textbook and other suggested material:**

**Course Objectives:**
After successfully completing this course, students should be able to
1. understand the vector analysis needed for electromagnetism.
2. understand basic electrostatics.
3. understand basic techniques for solving Laplace’s equation.
4. understand the polarization of matter by electric fields.
5. understand basic magnetostatics.
**Topics Covered:**
1. Vector calculus
2. Electrostatics in vacuum, work and energy, conductors
3. Laplace's equation and its solution
4. Electric fields in matter, currents, circuits and dielectrics
5. Magnetostatics, vector potential.

**Class schedule:**
3 HR./WK.; 3 CR.

**Relationship of course to program outcomes:**
The outcomes of this course contribute to the following departmental learning outcomes:

a. students will be able to synthesize and apply their knowledge of physics and mathematics to solve physics-related problems in a broad range of fields in classical and modern physics, including mechanics, electricity and magnetism, thermodynamics and statistical physics, optics, quantum mechanics, and experimental physics.

b. students will be able to communicate their knowledge effectively and in a professional manner, in both oral and written forms.

**Assessment Tools**
1. Attendance
2. Homework assignments
3. Results of quizzes
4. Lab reports (if applicable)
5. Class participation
6. Results of Final Exam

**Person who prepared this description and date of preparation:**

email address
date
**Academic Integrity and Plagiarism**

The CUNY Policy on Academic Integrity can be found at http://web.cuny.edu/academics/info-central/policies/academic-integrity.pdf

This policy defines cheating as “the unauthorized use or attempted use of material, information, notes, study aids, devices or communication during an academic exercise.” The CUNY Policy on plagiarism says the following about plagiarism (the CUNY Policy can be found in Appendix B.3 of the CCNY Undergraduate Bulletin 2007 -2009 as well as the web site listed above):

Plagiarism is the act of presenting another person’s ideas, research or writings as your own. The following are some examples of plagiarism, but by no means is it an exhaustive list:

1. Copying another person’s actual words without the use of quotation marks and footnotes attributing the words to their source.
2. Presenting another person’s ideas or theories in your own words without acknowledging the source.
3. Using information that is not common knowledge without acknowledging the source.
4. Failing to acknowledge collaborators on homework and laboratory assignments.
5. Internet plagiarism includes submitting downloaded term papers or parts of term papers, paraphrasing or copying information from the internet without citing the source, and “cutting and pasting” from various sources without proper attribution.

The City College Faculty Senate has approved a procedure for addressing violations of academic integrity, which can also be found in Appendix B.3 of the CCNY Undergraduate Bulletin.”