PHY301: Electromagnetic Theory I

Instructor: Professor V. J. Goldman, office: B-137 (Physics building)
office hours: Tue, Thu 1:00 - 2:00
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TA: TBA

Text: D. J. Griffiths, Introduction to Electrodynamics, 4th or 5th edition

Course organization and grading:

- Two 1.5 hour lectures per week (Frey 317, TueThu 11:00 - 12:20 pm)
- **Homeworks:**
  before Midterm: posted on BS on Tuesdays, due next week on BS by 11:59 pm Tuesday,
  after Midterm: on Thursdays, due next week Thursday
- Late HW penalty: 20% per day, so that model solutions can be posted promptly
- Exams: one Midterm (March 26, in class) and Final (Tuesday May 12, 11:15 - 1:45 pm)
- Exams are closed book, except can bring 1 handwritten sheet; the Final is comprehensive
- Course grade = 20% HW + 30% Midterm + 50% Final
- There is no provision for doing extra or outside work to improve your grade

BrightSpace: *syllabus*, in *assignments*: HWs, solutions, exams, etc.

Course outline:

1. Brief review of vector calculus
2. Electrostatics: charge, field and scalar potential
3. Special techniques in electrostatics
4. Atoms and solids in electric field: polarization
5. Magnetostatics: current, field and vector-potential
6. Atoms and solids in magnetic field: magnetization
7. Electrodynamics and Maxwell equations

Material will be presented in lectures, readings assignments from the text, and homework problems. Lecture will cover the material to be learned, some important examples, and will direct your study from the text, however some material will be presented in class that is not in the text. Generally, students who attend the lecture do better on exams, and have better overall class experience. Thus, you should attend class, pay attention while there, and take notes. You should plan on 2-4 hours of study and doing problems outside of class for every lecture. The material in the latter parts of the course will rely upon material presented in the earlier parts of the course, therefore you will have to commit the material to long-term memory.

Working together: Students are encouraged to study in small groups, discuss the material and HW problems. It should be perfectly clear that each person is responsible for completing and submitting the work. It is NOT acceptable to divide the problems, when one solves problem 1 and the other problem 2. Exchange of any information between the students during an exam is unacceptable.

http://sb.cc.stonybrook.edu/bulletin/current/policiesandregulations/policies_expectations/min_instructional_student_resp.php