

PHY301: Electromagnetic Theory I

Instructor: Professor V. J. Goldman, office: B-137 (Physics building)
office hours: Tue, Thu 1:30 - 2:30
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TA: TBA
office: TBA

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

Course organization and grading:

- Two 1.5 hour lectures per week (Javits 111, Tue, Thu 11:30 - 12:50 pm)
- **Homeworks** before MT: will be posted on Tuesdays, due next week Tuesday in class, after Midterm: on Thursdays, due next week Thursday in class (on paper only)
- Late HW: in B-137 only (slide under the door, if closed), **not** in mailbox, **not** to TA
- Late HW penalty: 20% per day, so that model solutions can be posted promptly
- Exams: one Midterm (March 21, in class) and Final (Tue, May 14, 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, in *documents*: solutions, exams, etc.

Course outline:

1. Brief review of vector calculus
2. Electrostatics: charge, field and potential
3. Special techniques in electrostatics
4. Electric field in dielectrics: 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 primarily 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 be based 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