

List of topics for Midterm 02 (2018 Fall)

PHYS 320: Electricity and Magnetism I

Due date: No submission required

1. Electric field and electric force:
 - (a) Section 2.1 in textbook. All examples and all problems.
 - (b) Electric field due to a simple dipole. Electric force on a point charge due to a simple dipole.
 - (c) Electric field due to a point dipole. Electric force on a point charge due to a point dipole.
 - (d) What should the charge distribution be to generate a uniform electric field?
 - (e) Motion of a point electric charge in a uniform electric field.
2. Gauss's law:
 - (a) Section 2.2 in textbook. All examples and all problems.
3. Electric potential:
 - (a) Section 2.3 in textbook. All examples and all problems.
 - (b) Electric potential due to a simple dipole.
 - (c) Electric potential due to a point dipole.
 - (d) Electric potential for a uniform electric field.
4. Electric potential energy:
 - (a) Section 2.4 in textbook. All examples and all problems.
 - (b) Electric potential energy between a point charge and a simple dipole.
 - (c) Electric potential energy between a point charge and a point dipole.
 - (d) Electric potential energy in the context of a uniform electric field.