PHYS 212 Spring 2012 Study Guide for Test #3     Chapters 24,25, & 26  
  
Test will consist of regular questions and problems.  
  
1. Chapter Reading.

2. Practice WileyPlus assignments.

3. Determining potential due to point charges and continuous charge distributions.  
http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c24/math152.gif http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c24/math151.gif http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c24/math155.gif

4. Determining the electric field from the potential.  
http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c24/math118.gif

5. Capacitors:  
Charge: http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c25/math127.gif Stored energy: http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c25/math134.gif

Parallel plate capacitor:

**Capacitors in Parallel and in Series** The **equivalent capacitances** *C*eq of combinations of individual capacitors connected in parallel and in series can be found from:

http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c25/math132.gif http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c25/math133.gif

6. Current (i), current density (J), resistance (R), and power (P):

http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c26/math136.gif http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c26/math138.gif http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c26/math143.gif http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c26/math057.gif

http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c26/math125.gif http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c26/math144.gif

7. Estimating the cost of electricity.

8. Semiconductors and Superconductors.