PHYS 212 MWF 9:30-10:20    S2011 Study Guide for Final   
  
Final exam will consist of multiple choice questions, regular questions, derivations, and problems. It will cover the materials from Tests 2, 3, & 4 and Chapters 31, 32, and 33.  
  
Chapters 31, 32, and 33: Practice WileyPlus homework.  
 AC circuits, Maxwell’s equations, and Electromagnetic waves.  
  
Study old Tests 2,3,and 4:  
Understanding and using Coulomb’s law ( ) in problem solving.  
Understanding and using Gauss’ Law () in problem solving.  
  
**Capacitors: http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c25/math127.gif**http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c25/math132.gif **http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c25/math133.gif**

1. 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  
Ohm’s law: v = iR Power: http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c27/math039.gif http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c27/math158.gif http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c27/math159.gif

http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c27/math160.gifhttp://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c27/math063.gif

Analyzing circuits using loop rule and junction rule.

Net force on a moving charge in electric and magnetic fields:

A Charged Particle Circulating in a Magnetic Field:http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c28/math156.gif

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| **Magnetic Field of a Long Straight Wire:**  http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c29/math011.gif  http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c29/math069.gif | | |
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| **Faraday's Law of Induction** and | | | |
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| **Lenz's Law.** | | |
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