PHYS 212 S2012 Study Guide for Test #4     Chapters 27,28,29&30  
  
Test will consist regular questions, derivations, and problems.  
  
1. Chapter Reading.

2. Practice WileyPlus assignments.

Chap 27: http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c27/math001.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.

Understanding the behavior of RC circuits.

Chap 28:

Electric force on a charge:

Magnetic force on a moving charge: http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c28/math153.gif

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

**Magnetic Force on a Current-Carrying Wire** A straight wire carrying a current *i* in a uniform magnetic field experiences a sideways force

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| http://edugen.wiley.com/edugen/courses/crs1650/art/common/pixel.gif | |
| http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c28/math159.gif |  |

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| **Chap 29: 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/common/pixel.gif | |

http://edugen.wiley.com/edugen/courses/crs1650/art/math/halliday8019c29/math069.gif  
  
Finding magnetic field using Ampere’s law and Biot-Savart law.

**Chap 30: Faraday’s law of induction and Lenz’s law.**