

# List of known corrections to the PHY 232C online lectures

## Chapter 16: Electric Potential

Example: Motion in Field and Approaching Plate, slide 3, time~8:40

After:  $-5 \times 10^{-4} v_y^2 + 10^{-4} = 0$

This is incorrect:  $v_x = \sqrt{4 \times 10^{-4}} = 0.02 \text{ m/s}$

This is correct:  $v_y = \sqrt{\frac{1}{5}} = 0.447 \text{ m/s}$

## Chapter 17A: Current and Resistance

Example: Drift velocity, slide 2

The value of the drift velocity shown on this slide is incorrect. The correct drift velocity for this example is  $7.39 \cdot 10^{-5} \text{ m/s} = 0.266 \text{ m/hour}$

## Chapter 18: Magnetic Fields

Example: Magnetic Fields by Wires, slide 3 first part

The result for the magnetic field strength is incorrect. The correct magnetic field strength at the coil's center is  $B = 5.0 \times 10^{-2} \text{ T}$

## Chapter 19B: AC Circuits

Example: Self Inductance RL Circuits, slide 1

The result for the inductance of the solenoid is incorrect. The correct inductance of the solenoid is  $L = 1.26 \times 10^{-3} \text{ H}$

Chapter 19B: AC Circuits Example: LRC Circuits/Resonance, slide 2 @ 2min 20 sec.

Incorrectly states the resonance frequency does not depend on L or C.

CORRECTION: The resonance frequency only depends on L and C, therefore if either  $V_{\text{max}}$  or R are changed, the resonance frequency will remain the same.

## Chapter 21A: Ray Optics

Example: Lenses, slide 6 two lenses

The text of the problem incorrectly refers to the first optical element as a converging mirror. This element should be a converging lens.

## Chapter 21B: Optical Instruments

Example: Magnifier, Microscope and Telescope, slide 3

The calculated focal length of the eyepiece is incorrectly shown as 2.1cm. The correct focal length is 2.0cm. Also, the correct focal length of the objective is 90 cm.

## **Chapter 24: Atomic Physics**

28.1b: Bohr's theory for hydrogen, slide 6

This slide has an incorrect value for the Bohr radius,  $a_0$ . The correct Bohr radius is:

$$a_0 = 0.0529 \times 10^{-9} \text{ m}$$