

Oberlin College Physics 110, Fall 2011

## Assignment 7

Wednesday, 19 October

Fall break is here at last! I recommend that you relax, avoid your studies, refresh yourself, and come back invigorated to work on:

*Reading:* The word *power* is yet another word that has one definition in day-to-day life, and a very different (and more precise) definition in physics. Be sure to read HRW section 7-9 to make this distinction clear.

Read HRW chapter 8 (Potential Energy and Conservation of Energy) carefully. Read sections 9-8 through 9-11 (concerning collisions) less intensely.

*Workshops:* The Wednesday–Thursday workshop for this week is “Carts, Forces, and Energy”. Don’t forget the warm-up questions!

*Extras:* No guest lecture or informal Friday this week.

*Problems:* Due Wednesday, 2 November.

- HRW problem 7-13: *Luge*  
A luge is a fancy snow sled. Read the entire problem before starting.
- HRW problem 7-35: *Work done by a variable force*  
The symbols  $F_0$  and  $x_0$  represent constants with the dimensions of force and distance, respectively. They do *not* mean “the initial value of the force” or “the initial value of the position”.
- HRW problem 7-62: *Shock absorber*  
Read the entire problem before starting.
- HRW problem 7-54: *Work done by a variable force*
- HRW problem 7-65: *Pulley*
- Additional problem 69: *Quark-quark interactions*