

**ASSIGNMENT:** Text, Chapters 6 and 7 (esp. Sec. 1); handouts. We will not do the sub-section “Work-Energy Theorem for Motion Along a Curve,” pp. 196–198; it is worth your attention, but the mathematics goes a little beyond first semester calculus.

- CONCEPTS:**
1. Work-Energy Theorem (3D, non-constant forces; see handout)
  2. Use of integrals to calculate work done by a variable force
  3. Power as work done per unit time; Units of power are Watts (Joules/sec)
  4. Potential energy, especially gravitational potential energy
  5. conservative forces and conservation of mechanical energy

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**TURN IN:** Chapter 6, Problems 6.86, 6.91; Chapter 7, Exercises 7.9, 7.11, 7.12; Problem 7.46.  
Extra Credit, Problem 7.63

#### NOTES AND ANNOUNCEMENTS

1. The laboratory will meet on Thursday, Friday, and Monday, 15–16 and 19 October, Days 4, 5, and 6. We will do Experiment 6, Kinetic Friction. Note that you will need to do the derivation described in the lab manual *before* you come to lab. It should be a good review of YF Chapter 5.