Unit VII: Objectives

By the time we finish the labs and related materials in this unit, you should be able to :

1. Make the distinction between energy storage and transfer.

2. Be able to recognize and identify energy storage mechanisms : gravitational, kinetic, elastic, dissipated.

3. Recognize the universal, fundamental nature of energy as opposed to different form of energy.

4. Use Hooke's Law to analyze elastic energy systems.

5. Recognize and identify modes of energy transfer: working, heating, radiating.

6. Use representational tools (pie charts, bar graph/schema diagrams) to analyze a system in terms of energy storage and transfer.

7. Analyze a system of energy interactions appropriately according to the system designation.

8. View friction as a mechanism for dissipating energy.

9. Determine the quantity of kinetic energy, elastic potential energy, gravitational potential energy, frictional dissipated energy during an interaction.

10. Explain working as:
    energy transfer to/from system via external force
    F˜x (parallel to motion)
    area under F-x graph

11. Define power as rate of energy usage; calculate power in watts.