CH365 CHEMICAL ENGINEERING THERMODYNAMICS

Lesson 2: Fundamentals 2

Read: Sections 1.6-1.9, pp. 10-17

Problems: 1.11, 1.12, 1.18 (Problem Set 1)

Objectives (Cadets will be able to):

1. State the thermodynamic definitions of work, energy and heat and be able to discuss them.

2. Describe the energy conservation principle and how this leads to the mechanical energy balance.

3. Compute work and energy changes for a piston.

4. Describe the driving force for the transfer of heat.

5. Perform calculations involving heat, work, and energy in the SI and FPS unit systems.

Definitions:

Work, units of work (Joule, Newton-meter, foot-pound-force), path, energy (kinetic and potential), energy conservation, heat, units of heat (Joule, calorie, British thermal unit), system, surroundings.

Cadet Notes: