CH365 CHEMICAL ENGINEERING THERMODYNAMICS

Lesson 4: Internal Energy, Energy Balances, & State Functions

Read: Sections 2.1-2.5, pp. 24-34

Problems: 2.1, 2.4

Objectives:

1. Describe Joule's experiments.

2. Describe the relationship between internal energy and heat and work.

3. State the first law of thermodynamics in word and equation form.

4. Use concepts of thermodynamic state and state functions to calculate heat, work, and internal energy associated with changes of state (see Examples 2.3, and 2.4).

Definitions:

Internal energy, 1st Law of Thermodynamics, system, surroundings, extensive property, intensive property, thermodynamic state, state function.

Cadet Notes: