CH365 CHEMICAL ENGINEERING THERMODYNAMICS

Lesson 1: Course Introduction and Fundamentals 1

Read: Sections 1.1-1.5, pp. 1-10

Problems: 1.4, 1.6, 1.9 (Problem Set 1)

Objectives (Cadets will be able to):

1. Describe the scope and limitations of thermodynamics.

2. Define the units used to express amount of substance and force.

3. Convert temperature between the different temperature scales.

4. Analyze readings from a dead-weight gauge.

5. Perform calculations using both FPS and SI systems of units.

Definitions:

Dead-weight gauge, units of force (pound-force, poundal, Newton), molar volume, specific volume, temperature, pressure, liquid-in-glass thermometer, bimetallic strip, thermocouple, thermistor, resistance thermometer, Bourdon tube pressure gauge, manometer.

Notes:

The book is heavily used for reading, problems and information gathering. Cadets must become familiar with the book and how to use it, including:

- Where the list of symbols is located,
- How the chapters are organized, and
- The information in the appendices.

Cadet Notes: