

Chapter 15 Study Guide

Prior to lecture:

1. Read Ch. 15 in the textbook
2. On a sheet of paper, write down the first and second law of thermodynamics as shown in the text book. Rewrite each law in your own words.
3. Work through example problem 15.1 in the text.
4. Read the “Problem-Solving Strategies for Thermodynamics” on page 535. Rewrite the procedure in your own words.
5. Answer conceptual questions 1, 3, 8, 12, 16, 22, 31 and 37 on pages 547-549 of the text.
6. Define the following terms:
 - a. Heat pump
 - b. Heat engine
 - c. Isobaric
 - d. Isochoric
 - e. Isothermal
 - f. Macrostate
 - g. Microstate
 - h. Otto Cycle
 - i. Entropy
 - j. Carnot cycle
 - k. Reversible process
 - l. Internal energy

After lecture:

1. Review notes from lecture
2. Redo all example problems from lecture
3. Reread text
4. Work through examples 15.2, 15.3, 15.4, 15.6, and 15.8 in the text.
5. Redo all recitation worksheet problems
6. Answer conceptual questions 2, 5, 9, 10, 13, 17, 20, 23, 28, 33, and 35 on pages 547-549 of the text.
7. Complete homework for chapter 15
8. For extra practice, try the following problems from chapter 15 of the textbook: 2, 4, 7, 10, 14, 20, 21, 27, 29, 30, 34, 39, 41, 45, 47, 56, 60