

## Chapter 30 Study Guide

Prior to lecture:

1. Read Ch. 30 in textbook
2. Work through example problem 30.1.
3. Answer conceptual questions 4, 5, 12, 22, 24 and 28 on page 1110 of the text.
4. Define the following terms:
  - a. Bohr's atomic model
  - b. Bohr radius
  - c. Rydberg constant
  - d. hydrogen-spectrum wavelength
  - e. X-ray energy
  - f. X-ray diffraction
  - g. Fluorescence
  - h. Phosphorescence
  - i. Stimulated emission
  - j. population inversion
  - k. Metastable state
  - l. Laser and Maser
  - m. Quantization of angular momentum
  - n. Zeeman effect
  - o. Quantum numbers
  - p. Shells and Subshells
  - q. Pauli's exclusion principle

After the lecture

1. Review notes from lecture.
2. Redo all example problems from lecture.
3. Reread text
4. Work through example problem 30.2, 30.4 and 30.5.
5. Redo all recitation worksheet problems
6. Answer conceptual questions 8, 9, 10, 13, 14, 23, 24, 27 and 29 of the text.
7. Complete homework for chapter 30
8. For extra practice, try the following problems from chapter 30 of the textbook: 2, 4, 8, 10, 13, 17, 32, 33, 35, 36, 38, 39, 40, 41, 47, 51, 58, 61, 64, and 66.