CH 221 Chapter Two Study Guide

- Explain the historical development of the atomic theory and identify some of the key scientists who made important contributions to this field (Democritus, Dalton, Curie, Rutherford, etc.)

- Describe electrons, protons and neutrons and the general structure of the atom.

- Understand the atomic mass unit (amu) and elementary charge (e).

- Be able to calculate the atomic mass of an element from isotopic abundances.

- Define isotope and be able to give the mass number and number of neutrons for a specific isotope.

- Explain the difference between atomic number and atomic mass for an element. Be able to find this information from a periodic table.

- Memorize the value of Avogadro's Number to four significant figures ($6.022 * 10^{23}$).

- Explain the concept of the mole. Be able to find the mass per mole from the periodic table.

- Know how mass per mole relates to mass per atom on the periodic table and know how to use this in calculations.

- Understand how to convert from moles of an element to mass of an element and from the mass of an element to moles of an element.

- Know the seven diatomics (HNFOIClBr)

- Understand the difference between a molecular formula, empirical formula and a structural formula.

- Be able to solve and understand the assigned problems in problem set #2.