CHAPTER 2 LEARNING OBJECTIVES

To satisfy the minimum requirements for this course, you should be able to:

Understand the organization of the periodic table and be able to:
- define group (or family) and period
- identify the following groups: 1A (alkali metals); 2A (alkaline earth metals); 7A (halogens); 8A (noble gases)
- identify an element as a metal, nonmetal, or metalloid
- write the symbol and charge for an atom or ion, having been given the number of protons and electrons, and perform the reverse operation
- write the symbol for an isotope given its atomic number and mass number

Understand how molecular and empirical formulas are used to convey chemical information and be able to:
- explain the differences between molecular compounds and ionic compounds
- explain the differences between molecular formulas and empirical formulas
- write the empirical formula for an ionic compound given the charges of its component ions

Explain how chemicals are systematically named and learn:
- the names and formulas of the common cations, anions and common acids listed in the General Chemistry Reference Sheet
- how to name simple ionic compounds and binary molecular compounds

Perform calculation involving the masses of atoms and molecules. Examples include:
- calculate the molecular mass or formula mass (in amu) and molar mass (in g/mol) of a substance from its chemical formula
- interconvert number of molecules, number of moles, and mass of a substance
- determine the percent composition by mass of its component elements given the molecular or empirical formula of a compound
- determine the empirical formula for a compound given its percent composition by mass
- determine the molecular formula of a compound given its empirical formula and molecular weight