Covered in Lecture:

- **Empirical and Molecular Formulas**
  - Percent composition by mass
  - Scaling factor
  - Determining empirical and molecular formulas from the percent by mass and the molar mass
  - Determining empirical and molecular formulas from combustion products and the molar mass

- **Balancing chemical equations**

- **Stoichiometry problems**
  - Determining the limiting reactant
  - Calculating theoretical yield
  - Calculating stoichiometric amounts and the amount of a reactant in excess
  - Percent yield
  - Overall percent yield in a multi-step reaction pathway
  - Reasons for obtaining less than 100% yield and more than 100% yield

- **Molarity, preparation, and dilution of solutions**
  - Making a solution of a particular molarity
  - Volumetric Flasks
  - Calculating the required amount of a solid solute
  - Diluting a solution (using the dilution equation $M_1V_1 = M_2V_2$)
  - Calculating the required amount of a stock solution
  - Calculating the final concentration when solutions of different concentration are combined

- **Titration and titration stoichiometry**
  - Types of titration and the analytical technique
  - Using molarity as a conversion factor (when molarity given)
  - Using the molarity definition equation (when asked to calculate molarity)

Covered in Lab (Mole Worksheet):

- **Moles**
  - Definition of a mole
  - Avogadro’s number
  - Molar mass
  - Molar ratios
  - Formula ratios
  - Conversions using Avogadro’s number, molar mass, molar ratios, and formula ratios

Manage your time wisely as you study. Cover all the basic concepts before delving too deeply into any one topic. If you have a specific question, you can e-mail me at albi.romero@cabrillo.edu I will reply to e-mails several times the night before an exam. Continue to study other topics while you wait for a response.