Covered in Lecture:

- Types of mixtures: True solutions versus colloids and suspensions
  - Solutions
  - Colloidal dispersions (colloids)  
    - Tyndall Effect
  - Suspensions
  - Differentiating between these three types of mixtures

- Solubility of solutes in true solutions
  - Units
  - Unsaturated, saturated, and supersaturated solutions
  - Equilibrium
    - IMFs and solubility  
      - like dissolves like
  - Temperature effects
    - solids in liquid
    - gases in liquid
  - Pressure effects ($P_{\text{gas}}$)
    - gases in liquid
    - Henry’s Law

- Units of Concentration
  - M
  - m
  - $\%\left(\frac{m}{m}\right)$
  - ppm
  - $\%\left(\frac{\chi}{V}\right)$
  - $\chi$

- Enthalpy of Solutions ($\Delta H_{\text{soln.}}$)
  - Equation and diagrams
  - IMFs and the sign of $\Delta H_1$, $\Delta H_2$, and $\Delta H_3$
  - Relative strength of the attraction between the same type of particle (themselves) and to the other type of particle in the mixture (each other)
Colligative Properties
  o Vapor Pressure
    ▪ Raoult’s Law for a solution with a non-volatile solute
    ▪ Raoult’s Law for a solution of two volatile solvents
    ▪ Ideal Solutions and two component VP diagrams
    ▪ Negative deviations from Raoult’s Law
    ▪ Positive deviations from Raoult’s Law
  o Boiling Point
  o Freezing Point
  o Osmotic Pressure
  o van’t Hoff factors
    ▪ ideal
    ▪ observed
    ▪ ion pairing and effects of concentration

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.