CHM 106
Exam II topics

CHAPTER 14: Acids and Bases

Acid-base definitions
- Arrhenius
- Brønsted-Lowry
- Lewis

Conjugate acid-base pairs
Strong and weak acids and bases
$K_w = 1.00 \times 10^{-14} = [H^+][OH^-]$
pH and pOH
- $pH = - \log [H^+]$
- $pOH = - \log [OH^-]$
- $pH + pOH = 14.00$

Weak acid and base dissociation calculations
Percent dissociation
Polyprotic acids
pH of salt solutions
- $K_a \cdot K_b = K_w$

Relationship between structure and acidity

CHAPTER 15: Applications of Aqueous Equilibrium

Common ion effect and pH
Buffers
Calculations of pH change in buffered solutions
Henderson-Hasselbalch equation

$$pH = pK_a + \log \frac{[A^-]}{[HA]}$$

Buffer capacity
Titration curves
- Strong acid and strong base
- Weak acid and strong base
- Strong acid and weak base

Indicators
Solubility equilibria
K_{sp} and molar solubility
Common ion effect and solubility
pH effects on solubility
Relative solubility
Precipitations
Complex ion equilibria