**Chem 112-2020 Exam 3 Topics Vining**

**Chapter 16: Acids and Bases**

16.3 Acid and Base Strength

 16.3a Acid and Base Hydrolysis Equilibria, Ka, and Kb

 16.3b Ka and Kb Values and the Relationship Between Ka and Kb

 16.3c Determining Ka and Kb Values in the Laboratory

16.4 Estimating the pH of Acid and Base Solutions

 16.4a Strong Acid and Strong Base Solutions

 16.4b Solutions Containing Weak Acids

 16.4c Solutions Containing Weak Bases

16.5 Acid-Base Properties of Salts: Hydrolysis

 16.5a Acid–Base Properties of Salts

 16.5b Determining pH of a Salt Solution

16.6 Molecular Structure and Control of Acid-Base Strength

 16.6a Molecular Structure and Control of Acid-Base Strength

**Chapter 17: Advanced Acid-Base Equilibria**

17.1 Acid–Base Reactions

 17.1a Strong Acid/Strong Base Reactions

 17.1b Strong Acid/Weak Base and Strong Base/Weak Acid Reactions

 17.1c Weak Acid/Weak Base Reactions

17.2 Buffers

 17.2a Identifying Buffers

 17.2b Buffer pH

 17.2c Making Buffer Solutions

17.3 Acid–Base Titrations

 17.3a Strong Acid-Strong Base Titrations

 17.3b Weak Acid-Strong Base and Weak Base-Strong Acid Titrations

 17.3c pH Titration Plots as an Indicator of Acid or Base Strength

 17.3d pH Indicators

 17.3e Polyprotic Acid Titrations

17.4 Some Important Acid–Base Systems

 17.4a The Carbonate Buffer System: H2CO3/HCO3−/CO32−

 17.4b Amino Acids

**Chapter 18: Precipitation and Lewis Acid-Base Equilibria**

18.1 Solubility Equilibria and *K*sp

 18.1a Solubility units

 18.1b The Solubility Product Constant

 18.1c Determining *K*sp Values

18.2 Using *K*sp in Calculations

 18.2a Estimating Solubility

 18.2b Predicting if a Solid Will Precipitate or Dissolve

 18.2c The Common–Ion Effect

 Section 18.2 Mastery

18.3 Lewis Acid–Base Complexes and Complex Ion Equilibria

 18.3a Lewis Acids and Bases

 18.3b Complex Ion Equilibria

18.4 Simultaneous Equilibria

 18.4a Solubility and pH

 18.4b Solubility and Complex Ions

 18.4c Solubility, Ion Separation, and Qualitative Analysis