**Chemistry 122 Exam Review**

**Thermochemistry**

* Energy loss / gain through change in physical state
* Heat Capacity and Specific Heat
* Heat of Reaction
* Heating Curves
* Energy to mass conversions / Mass to energy conversions
* Enthalpy
* Endothermic / Exothermic
* Hess’ Law

**Rate of Reactions**

* Activation Energy
* Le Chatelier’s Principle
* Catalysts
* Ineffective Collisions
* Rate Law Equation
* Equilibrium
* Equilibrium Law Expression
* Factors affecting rate of reaction
* Ksp / Keq
* Solubility

**Acid – Base Chemistry**

* Properties of Acids and Bases
* pH + pOH = 14
* pH = -log[H+] ; [H=] = 10-pH
* pOH = -log[OH-] ; [OH-] = 10-pOH
* Calculating hydrogen ion concentration
* Hydrogen ion (H+); Hydronium ion (H3O+); Hydroxide ion (OH-)
* Dissociation
* pH & pOH
* Strong / Weak Acids
* Strong / Weak Bases
* Conjugate Acid / Base Pairs
* Amphiprotic Substances
* Ka & Kb
* Arrhenius, Bronsted-Lowry, and Lewis definitions of acids and bases
* Neutralization reactions
* Indicators
* Salts
* Equivalence Point

**Organic Chemistry**

* Functional groups
* History of organic synthesis
* IUPAC nomenclature
* Alkanes
* Alkenes
* Alkynes
* Cyclic Hydrocarbons
* Benzene
* Alcohols & ethers
* Halogen substituents
* Cracking
* -cis & -trans
* Isomers
* Saturated / Unsaturated