Brief Outline of Chapters for Exam #2

Chapter 5

I. Types of Compounds
   A. Molecular
      - non-metal and non-metal (sharing of electrons)
   B. Ionic
      - Metal and Non-metal/Polyatomic Ion (exception NH$_4^+$) (transfer of electrons)

II. Naming Ionic Compounds
   A. Binary Ionic Compounds
   B. Ionic Compounds with Polyatomic Anions and Cations

III. Naming Molecular Compounds
   A. Greek Prefixes (mono - deca)

IV. Naming Acids
   A. Binary Acids
   B. Acids from Oxyanions

V. Writing Formulas from Names

Chapter 6

I. Chemical Reactions and Equations
   A. When has a Reaction Occurred?
   B. Representing Reactions with Chemical Equations
   C. Balancing Chemical Equations
      - Law of Conservation of Mass

Chapter 7

I. Precipitation Reactions
   A. Ionic Compounds in Solutions
      - dissociation vs. ionization (lab worksheets)
   B. Double Displacement Reactions
   C. Complete, total ionic, and net ionic equations

II. Acid Base Reactions
   - mostly double displacement
   - what are the strong acids
   - what are the strong bases (for this class they are soluble ionic hydroxides)
   - Double Displacement Reactions
   - complete, total ionic, and net ionic equations
III. Oxidation Reduction Reactions
- metal + non-metal produces what?
- what is oxidation?
- what is reduction?
- what is a reducing agent?
- what is an oxidizing agent?
- calculating oxidation states and the amount of electrons transferred during a reaction

IV. Combustion Reactions
- O$_2$ as a reactant and CO$_2$(g) and H$_2$O(g) are the only products for complete combustion of C,H and C,H,O compounds

Chapter 8

I. Counting Atoms

A. Atomic Masses and the Periodic Table
- amu, when do we use amu?

B. Moles and grams
- Avogadro’s number and calculations of atoms, molecules, moles, and ions

C. Molar Mass and the Periodic Table
- Calculations

II. Composition and Formulas for Compounds

A. Percent Composition and Calculations

B. Calculating Empirical Formulas