**CHAPTER 2 STUDY OUTLINE**

**THE CHEMISTRY OF LIFE**

1.3Studying Life (pg. 17-19)

1. Characteristics of Living Things

2.1 The Nature of Matter (pg. 34-37)

1. Atoms
   1. Protons and Neutrons
   2. Electrons
2. Elements
3. Chemical Compounds
4. Chemical Bonds
   1. Ionic Bonds
   2. Covalent Bonds

2.2 Properties of Water (pg. 40-41)

1. The Water Molecule
   1. Polarity
   2. Hydrogen Bonding
      1. Cohesion
      2. High Surface Tension
      3. Adhesion
      4. High Specific Heat
      5. Water as a Solvent
      6. Density of WAter

2.3 Carbon Compounds (pg. 45-49)

1. The Chemistry of Carbon
2. Macromolecules
   1. Carbohydrates
   2. Lipids
   3. Nucleic Acids
   4. Proteins

2.4 Chemical Reactions and Enzymes (pg. 50-53)

1. Chemical Reactions
2. Energy in Reactions
   1. Energy Changes
   2. Energy Sources
   3. Activation Energy
3. Enzymes
   1. Nature’s Catalysts
   2. The Enzyme-Substrate Complex
   3. Regulation of Enzyme Activity