

**CHEM 65 REVIEW STUDY GUIDE**

<i>Topic</i>	<i>Text Reference</i>
<b>CHAPTER 1</b>	
• Know the steps in scientific method	1.2
• Apply the Law of Conservation of Mass	1.3
• Differentiate between the 3 states of matter from a molecular view	1.4
• Differentiate between physical and chemical properties of matter	1.4
• Differentiate between physical and chemical changes	1.4
• Classify matter as element, compound or mixture	1.4
• Differentiate between compounds and mixtures	Notes
• Differentiate between accuracy and precision	1.5
• Determine the number of significant digits in a measurement	1.5
• Round numbers to a specified number of significant digit	1.5
• Determine the number of significant digits in a calculated answer	1.5
• Convert from decimal notation to scientific notation and vice versa	Notes
• Perform mathematical operations with scientific notation	Notes
• Know the SI units of measurement for mass, length, and volume	1.6
• Be familiar with use of square and cubic conversion factors	Notes
• Perform metric conversions involving the SI prefixes	1.6
• Perform English to metric conversions with given conversion factors	1.6
• Convert between °C, °F and K	1.6
• Calculate volume of regularly shaped objects (i.e. cube, cylinder ,etc)	1.7
• Use dimensional analysis to solve problems involving units	1.7
• Calculate density and use to determine mass and volume	1.8
<b>CHAPTER 2</b>	
• Know the postulates of Dalton's atomic theory	2.1
• Explain Thomson and Rutherford's contributions to the development of atomic model	2.2
• Determine number of protons, electrons and neutrons from atomic number and mass number	2.3
• Know what an isotope is	2.3
• Calculate the average atomic mass of atoms from isotopic data	2.4
• Know what a period and group represent in the periodic table	2.5
• Classify elements as metals, non-metals and metalloids	2.5
• Know the difference between ionic and molecular compounds	2.6
• Name and write formulas for binary ionic compounds	2.8
• Name and write formulas for ionic compounds formed from elements with multiple ionic charges	2.8
• Name and write formulas for polyatomic ionic compounds	2.8
• Name and write formulas for binary molecular compounds	2.8
• Name and formula for binary and polyatomic acids	2.8
• Name and write formulas for hydrated crystals	2.8
• Know the identity of reactants and products in a chemical reaction	2.9
• Balance chemical reactions	2.10
• Write balanced chemical reactions from word equations	2.10