

Chemistry Unit 1 Outline: Chemistry as a Science

Chapter 1: The Science of Chemistry

Classes	Topics	Suggested Reading	✓	Assignments	✓
1	Course Outline, Lab Write up, Lab Safety and Equipment, Common Laboratory Equipment & Apparatus, Common Lab Techniques (Meniscus, Lighting Bunsen Burner, Electronic Balance, Pipetting)	Lab Safety Contract and Video Apparatus and Technique Handout			
2	Lab Safety Quiz (Aug 22, Monday) Chemical, Chemical Reactions, States of Matter and their Properties, Changes of Matter (Physical Changes versus Chemical Changes), Reactants and Products, Evidence of Chemical Change	1.1 What is Chemistry? (pg. 4 – 9)		pg. 9 #3 to 14	
3	Matter, Volume, Mass versus Weight, Unit and Quantity, SI Unit and Conversion Factor (including Imperial Units), Derived Units, Physical Properties, Density, Chemical Properties	1.2 Describing Matter (pg. 10 – 19)		pg. 14 #1 to 3 pg. 19 #1 to 14	
4	Classification of Matter, Pure Substances versus Mixtures, Homogeneous and Heterogeneous Mixtures, Alloys, Solutions, Separating Mixtures, Filtration and Distillation, Elements versus Compounds, Atoms and Molecules, Allotropes	1.3 Describing Matter (pg. 10 – 19)		pg. 28 #1 to 9, 11 to 14	
	Chapter 1 Quiz (A Block: September 1, Thurs) (C Block: August 30, Tues) (D & E Blocks: August 31, Wed)			pg. 31–32 #11, 13, 14, 16 to 23, 26 to 28	

Chapter 2: Matter and Energy

Classes	Topics	Suggested Reading	✓	Assignments	✓
1	Energy, Physical and Chemical Changes, Law of Conservation of Energy, Exothermic versus Endothermic Change (System and Surroundings), Heat, Kinetic Energy, Temperature, Celsius and Kelvin Scales, Heating Curve of Water, Specific Heat, Scientific Method (Observations, Hypothesis, Experimentation, Controlled, Manipulated and Responding Variables, Theory, Scientific Law), Law of Conservation of Mass, Models	2.1 Energy (pg. 38 – 45) 2.2 Studying Matter and Energy (pg. 46 – 53)		pg. 45 #1 to 3, 5, 7 to 13 pg. 53 #1 to 13	
3	Accuracy and Precision, Reliability, Uncertainty, Significant Figures (Significant Digits), Exact Values, Scientific and Standard Notations Calculations and Unit Conversions involving Significant Figures, Specific Heat Calculations	2.3 Measurements and Calculations in Chemistry (pg. 54 – 63)		pg. 59 #1 to 3; pg. 61 #1 to 4; pg. 63 #1 to 11	
4	Lab #1: Lab Safety, Measuring Techniques, Chemical & Physical Changes (A Block: September 6, Tues) (C, D & E Blocks: September 7, Wed)	Lab #1 Procedure		Lab #1 Report Due (A Block: Sept 13, Tues) (C, D & E Blocks: Sept 14, Wed)	
5	Unit 1 Test (A, C, D & E Blocks: September 12, Mon)			pg. 66–68 #8, 9, 13, 15, 18 to 42, 44, 45 Chapter 1 & 2 Practice Tests	