Western International High School
Chemistry Syllabus
By: Dr. Nada Saab.

School Years 2018-2019

Book: Holt, Rinehart and Winston, Harcourt Education, 2004.

Topics

- Properties and states of matter
- Atoms
- The periodic table
- Chemical bonding
- Chemical reactions and equations
- Gases
- Solutions
- Colligative properties
- Acids and bases
- Redox reactions
- Chemical equilibrium
- Nuclear chemistry
- Organic chemistry
- Biological chemistry

Unit 1: Chemistry Fundamentals
1. Scientific Method
2. Classification of Matter

Unit 2: Matter and Energy:
1. Studying matter and energy

Unit 3: Atoms and Moles
1. Structure of Atoms
2. Electron Configuration
3. Counting Atoms.

Unit 4: The Periodic Table.
1. Elements of the Periodic Table
2. Trends in the Periodic Table

Unit 5: Ions and Ionic Compounds
1. Ionic Bonding and Salts
2. Names and Formula of Ionic Compounds

Unit 6: Covalent Compounds
1. Drawing and Naming Molecules
2. Molecular Shapes

Unit 7: The Mole and Chemical Composition
1. Avogadro‘ seems Number
2. Formulas and Percentage Composition

Unit 8: Chemical Equations and Reactions
1. Balancing Chemical Equations
2. Writing Net Ionic Equations

Unit 9: Stoichiometry
1. Calculating Quantities in Reactions
2. Limiting Reactants and Percentage Yield

Unit 10. Causes of Change
1. Energy transfer
2. Changes in Enthalpy During and Chemical Reaction
3. Order and Spontaneity

Unit 11. States of Matter and Intermolecular Forces
1. States and State Changes
2. Energy of State Changes

Unit 12. Gases
1. The Gas Laws.

Unit 13. Solutions
1. Molarity

Unit 14. Chemical Equilibrium
1. Systems of Equilibrium

Unit 15. Acids and Bases
1. Acids and Bases
2. PH
3. Neutralization and Titrations

Unit 16. Reaction Rates
1. Factors Affecting the Reaction Rates

Unit 17. Oxidation, Reduction and Electrochemistry
1. Oxidation-Reduction Reactions

Unit 18. Nuclear Chemistry
1. Atomic Nuclei and Nuclear Stability

Unit 19. Carbon and Organic Compounds
1. Compounds of Carbon
2. Names and Structures of Organic Compounds

Chapter 20. Biological Chemistry
1. Carbohydrate and lipids
2. Proteins

3. Nucleic acids
4. Energy in Living Systems.