



Catholic
Memorial
HIGH SCHOOL

Year Long Course Plan

Department: Science

Course: IB Chemistry HL 2 758/759

Essential Learning Outcomes: After successfully completing this course, students will be able to (adapted from IB Group IV Subject Aims):

1. Acquire the body of knowledge, methods and techniques that characterize the study of chemistry.
2. Apply and use the body of knowledge, methods and techniques that characterize the study of chemistry.
3. Analyse, evaluate and synthesize scientific information.
4. Demonstrate awareness of the need for effective collaboration and communication during scientific activities.
5. Apply strong experimental and investigative scientific skills to new problems.
6. Apply information and communication technology skills in the study of science.
7. Demonstrate an awareness of the moral, ethical, social, economic and environmental implications of using science and technology.
8. Understand of the relationships between chemistry and the overarching nature of the scientific method.
9. Consider the study of chemistry within a global context.

Quarter 1	Quarter 2
Unit I – Atomic Structure (ELO 1,2,3,5,6,8) <ul style="list-style-type: none">• Electron configuration• ASSESSMENT: Unit I Test Unit II – Periodicity (ELO 1,2,3,5,6,8) <ul style="list-style-type: none">• Trends across period 3• First-row d-block elements• ASSESSMENT: Unit II Test Unit III – Bonding (ELO 1,2,3,5,6,8) <ul style="list-style-type: none">• Shapes of molecules and ions• Hybridization• Delocalization of electrons• ASSESSMENT: Unit III Test Unit IV – Energetics (ELO 1,2,3,4,5,6,8) <ul style="list-style-type: none">• Standard enthalpy changes of reaction• Born–Haber cycle• Entropy• Spontaneity• ASSESSMENT: Unit IV Test	Unit V – Kinetics (ELO 1,2,3,5,6,8) <ul style="list-style-type: none">• Rate expression• Reaction mechanism• Activation energy• ASSESSMENT: Unit V Test Unit VI – Equilibrium (ELO 1,2,3,4,5,6,8) <ul style="list-style-type: none">• Liquid–vapour equilibrium• The equilibrium law• ASSESSMENT: Unit VI Test Unit VII – Acids and Bases (ELO 1,2,3,4,5,6,8) <ul style="list-style-type: none">• Calculations involving acids and bases• Buffer solutions• Salt hydrolysis• Acid–base titrations• Indicators• ASSESSMENT: Unit VII Test
Quarter 3	Quarter 4
Unit VIII – Oxidation and Reduction (ELO 1,2,3,4,5,6,8) <ul style="list-style-type: none">• Standard electrode potentials• Electrolysis• ASSESSMENT: Unit VIII Test	Unit XI – Environmental Chemistry (ELO 1,2,3,4,5,6,7,8,9) <ul style="list-style-type: none">• Ozone depletion• Smog• Acid deposition

<p>Unit IX – Organic Chemistry (ELO 1,2,3,5,6,8)</p> <ul style="list-style-type: none"> • Introduction • Nucleophilic substitution reactions • Elimination reactions • Condensation reactions • Reaction pathways • Stereoisomerism • ASSESSMENT: Unit IX Test <p>Unit X – Human Biochemistry (ELO 1,2,3,5,6,7,8,9)</p> <ul style="list-style-type: none"> • Enzymes • Nucleic acids • Respiration • ASSESSMENT: Unit X Test 	<ul style="list-style-type: none"> • Water and soil • ASSESSMENT: Unit XI Test <p>Unit XII – IB Exam Review (ELO 1,2,3,4)</p> <ul style="list-style-type: none"> • ASSESSMENT: Final Exam
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