

**Course Description/Rationale/Overview:** This is the Senior Chemistry Course that continues the development of concepts from SCH 3U. SCH 4U prepares students for future studies at College or University. This course enables students to deepen their understanding of chemistry through the study of organic chemistry, energy changes, rates of reaction, chemical equilibrium, and atomic and molecular structure. Emphasis will be placed on problem solving and the importance of chemistry in daily life.

### Class Requirements:

**Text:** Nelson Chemistry 12

(Replacement cost: \$ 85 )

*Recommended: Binder  
Scientific calculator*

### Missed Tests and Late Assignments

Students are to be present for test dates. There must be a verified, valid reason when a test is missed. The teacher may provide an alternative opportunity for testing or record an "absent" for that test for legitimate absences.

All summative assignments will have a clear *Due Date*. Assignments that are handed after the *Due Date* will be accepted and assessed by the teacher if submitted prior to the deadline.

Where a student has not submitted enough work for the teacher to determine the student's level of achievement the report card will indicate that the student's work is incomplete and no grade will be assigned.

### Assessment Strategies

Each unit or strand of the course will be evaluated using summative evaluations. Students will also be expected to complete assessment activities of a formative nature in order to learn and to practice the specific expectations that will compose these summative evaluations. Examples of summative evaluations are tests, case studies, interviews, reports, presentations, seminars, debates, research and other writing assignments.

### Achievement Categories

Knowledge/Understanding	31%
Thinking/Inquiry	16%
Communication	30%
Application	24%

### Curriculum strands:

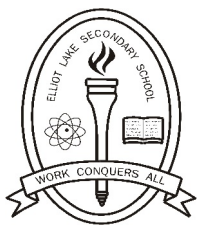
Structure and properties  
Energy changes and rates  
Chemical equilibrium  
Electrochemistry  
Organic chemistry

### Learning Skills:

Works Independently  
Team work  
Organization  
Work Habits  
Initiative

### Evaluation

**This year's work will be evaluated by a number of assignments, activities, quizzes, reports, and tests that will involve aspects of the four Achievement Categories.**



## COURSE OUTLINE

<b>Unit 1</b> Structure of Matter	Atomic and Molecular structure Organic chemistry	This unit reviews how atomic structure relates to the types of substances in the real world. Nomenclature and organic structures are also studied.
<b>Unit 2</b> Moles, Equations and Solutions	Quantitative aspects of Chemistry Organic chemistry	Reactions, mole calculations, balancing equations, concentration, and organic reactions are looked at.
<b>Unit 3</b> Heats of Reaction	Energy changes and Rates of Reaction	Unit 3 relates enthalpy and chemical reactions. Four ways of finding the heat change of a reaction are studied as well.
<b>Unit 4</b> Rates of Reaction	Energy changes and Rates of Reaction	Factors that can change the rate of a reaction and the tools needed to understand the changes involved are analyzed.
<b>Unit 5</b> Equilibrium	Chemical systems and Equilibrium	The structure, behaviour, and quantitative aspects of equilibrium situations are studied.
<b>Unit 6</b> Acids and Bases	Chemical systems and Equilibrium	The properties of acids and bases are investigated and explained.
<b>Unit 7</b> Solubility	Chemical systems and Equilibrium	The dissolving process and the solubility of substances are the topics of this unit.
<b>Unit 8</b> Electrochemistry	Electrochemistry	The driving force of electrochemical reactions, balancing redox reactions, and applications form the basis of this unit.

**Concepts from Organic chemistry are developed in the different units.**