

# Chemistry, Grade 12, University Preparation (SCH4U)

Colonel By Secondary School

This course enables students to deepen their understanding of chemistry through the study of organic chemistry, energy changes and rates of reaction, chemical systems and equilibrium, electrochemistry, and atomic and molecular structure.

Students will further develop problem-solving and laboratory skills as they investigate chemical processes, at the same time refining their ability to communicate scientific information.

Emphasis will be placed on the importance of chemistry in daily life, and on evaluating the impact of chemical technology on the environment.

**Prerequisite:** Chemistry, Grade 11, University Preparation

More detail on the course can be found on the internet at:

<http://www.edu.gov.on.ca/eng/document/curricul/secondary/grade1112/science/science.html#sch4u>

**Text:** Nelson Chemistry 12 (Replacement cost \$106)

<http://www.science.nelson.com/>

**Course Outline:** Topics to be covered in SCH4U

	<u>Topic</u>	<u>Approximate Time-line</u>
I.	<b>Energy Changes and Rates of Reaction</b> <ul style="list-style-type: none"><li>• Energy and Change</li><li>• Rates of Chemical Reactions</li></ul>	September —> mid October
II	<b>Chemical Systems and Equilibrium</b> <ul style="list-style-type: none"><li>• Reversible Reactions and Chemical Equilibrium</li><li>• Aqueous Solutions and Solubility Equilibria</li><li>• Acids, Bases and pH</li></ul>	Mid October -> mid January
III.	<b>Electrochemistry</b> <ul style="list-style-type: none"><li>• Oxidation – Reduction Reactions</li><li>• Cells and Batteries</li></ul>	Mid January —> early March
IV	<b>Structure and Properties</b> <ul style="list-style-type: none"><li>• Atoms, Electrons, and Periodic Trends</li><li>• Structure and properties of Substances</li></ul>	Early March —> mid April
V.	<b>Organic Chemistry</b> <ul style="list-style-type: none"><li>• Classifying Organic Compounds</li><li>• Reactions of Organic Compounds</li></ul>	Mid April —> June

## Evaluation

A student's mark is calculated from a wide variety of evaluation practices that include quizzes, laboratory book and lab reports, acquisition of lab skills, assignments, and unit tests.

The weighting of the final mark is as follows:

70% : Course work (tests, quizzes, lab reports and quizzes, assignments)

30% : Year-end Summative Evaluation (5 % Summative + 25 % June Exam)

Formative 70 % evaluations will be conducted throughout the course and will draw from the following learning skills, with the approximate year-end weighting indicated below. Individual evaluations will not necessarily include all of these learning skills.

<b>Assessment Categories</b>	<b>Evaluation Tools</b>
Knowledge/Understanding: 25 %	Quizzes, Unit Test
Inquiry (Thinking/Inquiring/Problem Solving): 25 %	Lab Design and Reports, Technical Skills
Communication: 10 %	Case Studies, Graphic Organizers, Debates, Electronic Portfolio
Making Connections (Application): 10 %	Presentations, Debates, Supported opinion Pieces

**30 % Year-end Summative Evaluation:**

25 % June Exam: content covers all five units + 5 % Summative evaluation

**Learning Skills:**

While not evaluated for marks, learning skills; works independently; teamwork; organization; work habits/homework; initiative — are assessed in the classroom.

The following scale is used: excellent; good; satisfactory; and needs improvement.

**Missed a class?**

The **MAIN RESPONSIBILITY** for any work covered in your absence is **YOURS**.

Missed classroom notes are available from my website: [www.savitapall.com](http://www.savitapall.com)

**Contact:**

There are two sure fire ways to get in touch with me. I will be available in the Science Preparation Room, beside the Science Labs. If you are looking for me, look there first. Alternatively, you can e-mail me at [savita@savitapall.com](mailto:savita@savitapall.com)

**Extra Help:**

I fully support students who wish to seek extra help with course material, and try to make myself available regularly. However it is your responsibility to seek extra help. I strongly suggest that you take advantage of this service because it will not offered to you next year, in University.

**A Successful Chemistry Student should endeavor to:**

- be prepared for each class, bringing all required materials,
- keep up to date on homework and assignments
- be willing to participate in class
- be willing to ask for extra help when it is required
- give it their best effort.

If you strive to meet these expectations, I am confident that you will enjoy and be successful in this course.