

## Grade 12 Chemistry (University) SCH4U1

<b>Course Description:</b> This course enables students to deepen their understanding of chemistry through the study of the properties of chemicals and chemical bonds; chemical reactions and quantitative relationships in those reactions; solutions and solubility; and atmospheric chemistry and the behaviour of gases. Students will further develop their analytical skills and investigate the qualitative and quantitative properties of matter, as well as the impact of some common chemical reactions on society and the environment.	<b>Level:</b>	University
	<b>Credit Value:</b>	1.00
	<b>Pre-requisite:</b>	SCH 3U1
	<b>Department:</b>	SCIENCE
	<b>Enhancement Fee:</b>	None

<b>Textbooks &amp; Resources:</b> <ul style="list-style-type: none"> <li>• Growing Success: Assessment, Evaluation and Reporting in Ontario Schools</li> <li>• The Ontario Curriculum Grades 11 and 12 Science (Revised 2008)</li> <li>• Nelson Chemistry 12</li> <li>• Please see pages from and hand-outs including: SATEC student agenda, “SATEC Science Department Evaluation Policy” &amp; “TDSB Science Laboratory Safety Rules and Lab Procedures”</li> </ul>
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<b>Course Evaluation:</b> Student Evaluation consists of three components...											
<b>1) Learning Skills &amp; Work Habits:</b> Students are evaluated on 6 Learning Skills & Work Habits and are evaluated on a scale of Excellent (E), Good (G), Satisfactory (S) & Needs Improvement (N) and reported on the report card.	<b>The skills and habits consist of:</b> <ul style="list-style-type: none"> <li>• Responsibility</li> <li>• Organization</li> <li>• Independent Work</li> <li>• Collaboration</li> <li>• Initiative</li> <li>• Self-Regulation</li> </ul>										
	Skills and work habits <b>are not</b> included in the student’s final mark unless specified in the curriculum expectations.										
<b>2) Term Mark (Assessment of Learning):</b> <i>It is the student’s responsibility to submit evidence of the term’s learning in a complete and timely manner.</i>  Student performance standards for knowledge and skills are described in the curriculum Achievement Chart. The curriculum is assessed in four categories:	<b>The term evaluation consists of:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: none;">• Knowledge</td> <td style="border: none; text-align: right;">21%</td> <td rowspan="4" style="border: none; text-align: center; vertical-align: middle;"><b>70%</b></td> </tr> <tr> <td style="border: none;">• Inquiry</td> <td style="border: none; text-align: right;">21%</td> </tr> <tr> <td style="border: none;">• Communication</td> <td style="border: none; text-align: right;">14%</td> </tr> <tr> <td style="border: none;">• STSE</td> <td style="border: none; text-align: right;">14%</td> </tr> </table>		• Knowledge	21%	<b>70%</b>	• Inquiry	21%	• Communication	14%	• STSE	14%
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<b>3) Final Evaluation (Assessment of Learning):</b> The <b>written exam</b> will be administered during the school’s final exam schedule. The final evaluation accounts for 30% of the final mark.	<b>The final evaluation consists of:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: none;">• Written Exam</td> <td style="border: none;"></td> <td style="border: none; text-align: center; vertical-align: middle;"><b>30%</b></td> </tr> </table>		• Written Exam		<b>30%</b>						
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<b>Final Mark = 70% Term Mark + 30% Final Evaluations</b>											
For a detailed description on Course Evaluation, see “How Did I Get That Mark!” at <a href="http://www.satec.on.ca">www.satec.on.ca</a>											
<b>Course Conduct Policies:</b> See Student Agenda.											

Course Outline:		
Unit	Description	Approximate Length
<b>Structure and Properties of Matter</b>	Matter comes and various molecular shapes and has a variety of physical properties. Atomic structure and chemical bonding is related to physical properties of ionic, molecular and covalent network and metallic substances. By understanding the properties and structures of matter, the benefits and impacts of products and technologies can be evaluated.	4 weeks
<b>Organic Chemistry</b>	Organic compounds have predictable chemical and physical properties determined by their respective structures and have various methods used to represent them. Organic chemical reactions and their applications have significant implications for society, human health, and the environment.	5 weeks
<b>Energy Changes &amp; Rates of Reaction</b>	Energy changes and rates of chemical reactions can be described quantitatively and used to solve problems. Technologies that transform energy can have societal and environmental costs and benefits.	4 weeks
<b>Chemical Systems and Equilibrium</b>	Chemical systems are dynamic and respond to changing conditions in predictable ways. These systems can be measured and the data can be used to solve problems. Applications of chemical systems at equilibrium have significant implications for nature and industry.	3 weeks
<b>Electrochemistry</b>	Oxidation and reduction are paired chemical reactions in which electrons are transferred from one substance to another in a predictable way and can be understood using a galvanic cell and many other practical applications. The control and applications of oxidation and reduction reactions have significant implications for industry, health and safety, and the environment.	2 week
<b>Skills &amp; Careers</b>	Scientific investigation skills and career exploration.	Integrated into each unit.
Note:	All of the above units will include tests, quizzes, labs, and assignments.	
<b>Note: The order of the units of study may change due to student needs and resources available during the course.</b>		

**General Information:**

1 – As per SATEC school policy students are expected to come to class:

- in uniform and,
- with cell phones, mp3 players etc... unseen and not in use during class time.

2- To be successful in Science, students are expected to:

- come to class prepared with pen/pencil, paper binder and resources for your particular Science course,
- demonstrate academic honesty with their own work and when working with others,
- complete assignments in a timely manner and,
- follow necessary safety rules and procedures of a Science Lab.

**Note:** For clarification of any of the above issues please see the SATEC agenda along with our own SATEC Science Department Evaluation Policy and/or the TDSB defined Science Laboratory Safety Rules and Lab Procedures presented the first week of class and stored at the front of your notebooks for future reference.

3- To seek extra help:

- speak to your Science Teacher and schedule a time to meet,
- use the school's homework club to access peer tutors and/or,
- speak to your guidance councillor to arrange for a tutor.

**Science Department deadlines and plagiarism policy.**

Each assignment will have a due date. Handing in an assignment **after the due date may result in a deduction of marks** at the discretion of the teacher.

Students must be in class on dates of any major assessments. If you miss a major assessment (i.e. unit test, exam, presentation) you must give your teacher a note **written and signed by your doctor or parent** stating the health reasons that kept you from class. Without a doctor's note, you will receive a mark of **zero** for that missed major assessment.

-If you know ahead of time that you will have an appointment, field trip, game, etc at the same time as the major assessment, you must either arrange with your teacher to complete the assessment before the scheduled date, or cancel your other plans so you can attend the evaluation.

**Plagiarism includes:** copying another student's work, buying essays, copy/paste web info and call it your own work, using information from print or internet media without identifying the source. To avoid plagiarism:

Do not cheat; Do not copy. Keep your eyes on your own paper during tests and exams. Do not steal intellectual property. Reference information properly (MLA)

We only need to suspect cheating to penalize you.

There will be no warnings, only marks of **zero**.

This course meets Environment and ICT SHSM program requirements.



**Please retain this page in the front of your notebook for future reference.**

