

CLARKSON SECONDARY SCHOOL

Course Code: SCH4U0

Course Name: Grade 12 University Chemistry

Prerequisite:

Grade 11 University Chemistry
SCH 3U0

Material Required:

Chemistry 12, Nelson

Textbook Replacement Cost: \$100

Course Description

This course is designed to deepen students' understanding of chemistry through the study of the strands (B-F) listed below. Students will further develop their problem-solving and investigation skills and refine their ability to communicate scientific information. Emphasis will be placed on the importance of chemistry in everyday life and on evaluating the impact of chemical technology on the environment. *The fundamental concepts studied in this course are matter, energy, systems and interactions, structure and function, sustainability and stewardship and change and continuity.*

Overall Course Expectations

By the end of this course, students will:

Organic Chemistry

- demonstrate an understanding of the structure of various organic compounds, and of chemical reactions involving these compounds;
- investigate various organic compounds through research and experimentation, predict the products of organic reactions, and name and represent the structures of organic compounds using the IUPAC system and molecular models;
- evaluate the impact of organic compounds on our standard of living and the environment.

Structure and Properties

- demonstrate an understanding of quantum mechanical theory, and explain how types of chemical bonding account for the properties of ionic, molecular, covalent network, and metallic substances;
- investigate and compare the properties of solids and liquids, and use bonding theory to predict the shape of simple molecules;
- describe products and technologies whose development has depended on understanding molecular structure, and technologies that have advanced the knowledge of atomic and molecular theory.

Energy Changes and Rates of Reaction

- demonstrate an understanding of the energy transformations and kinetics of chemical changes;
- determine energy changes for physical and chemical processes and rates of reaction, using experimental data and calculations;
- demonstrate an understanding of the dependence of chemical technologies and processes on the energetics of chemical reactions.

Chemical Systems and Equilibrium

- demonstrate an understanding of the concept of chemical equilibrium, Le Chatelier's principle, and solution equilibria;
- investigate the behaviour of different equilibrium systems, and solve problems involving the law of chemical equilibrium;
- explain the importance of chemical equilibrium in various systems, including ecological, biological, and technological systems.

Electrochemistry

- demonstrate an understanding of fundamental concepts related to oxidation-reduction and the interconversion of chemical and electrical energy;
- build and explain the functioning of simple galvanic and electrolytic cells; use equations to describe these cells; and solve quantitative problems related to electrolysis;
- describe some uses of batteries and fuel cells; explain the importance of electrochemical technology to the production and protection of metals; and assess environmental and safety issues associated with these technologies.

LEARNING SKILLS Learning Skills will be reported on the student's report card. The following chart indicates the skills and look-fors for each student.

WORKS INDEPENDENTLY	TEAMWORK	ORGANIZATION	WORK HABITS/HOMEWORK	INITIATIVE	SELF-REGULATION
<p>The student:</p> <ul style="list-style-type: none"> ▪ accomplishes tasks independently ▪ accepts responsibility for accomplishing tasks ▪ follows instructions ▪ regularly completes assignments on time and with care ▪ uses time effectively 	<p>The student:</p> <ul style="list-style-type: none"> ▪ works willingly and cooperatively with others ▪ listens attentively, without interrupting ▪ takes responsibility for his/her share of the work to be done ▪ helps to motivate others, encouraging them to participate ▪ shows respect for the ideas and opinions of others 	<p>The student:</p> <ul style="list-style-type: none"> ▪ organizes work when faced with a number of tasks ▪ devises and follows a coherent plan to complete a task ▪ demonstrates ability to organize and manage information ▪ follows an effective process for inquiry and research 	<p>The student:</p> <ul style="list-style-type: none"> ▪ completes homework on time and with care ▪ follows directions ▪ shows attention to detail ▪ perseveres with complex projects that require sustained effort ▪ applies effective study practices 	<p>The student:</p> <ul style="list-style-type: none"> ▪ seeks out new opportunities for learning ▪ seeks necessary and additional information ▪ requires little prompting to complete a task, ▪ approaches new learning situations with confidence and a positive attitude ▪ seeks assistance when needed 	<p>The student:</p> <ul style="list-style-type: none"> ▪ sets individual goals and monitors own progress ▪ seeks clarification or assistance when needed ▪ reflects and assesses critically own strengths, needs and interests ▪ perseveres and makes an effort when responding to challenges

Additional Information:

- Students are reminded to have a periodic table, scientific or graphing calculator, lined/graph paper and other appropriate materials for the course.
- Additional help is available through your teacher.
- Access to the Ontario Educational Resource Bank (OERB) is at <http://resources.elearningontario.ca/>
The login for use by the Peel District School Board's students is
Student Login: pdsbstudent
Student Password: oerbs
- Visit <http://www.khanacademy.org/> for mini lessons on topics covered in class.

Course Code:
SCH 4U0

Course Name:
Chemistry
Grade 12 University

Parent/Guardian Signature

Student Signature

Date

Clarkson S.S. Assessment & Evaluation Policy

CHEATING:

Students are expected to demonstrate **HONESTY** and integrity and submit assessments that are reflective of their own work. Cheating is defined as completing an assessment in a dishonest way through improper access to the answers. Examples include, but are not limited to; using another student's work as your own, using an unauthorized reference sheet during an assessment, receiving / sending an electronic message to another student with test questions / answers, etc.

In order to ensure that all assessments are free from cheating,

Students will:

- review school policy with regards to academic honesty
- submit their own work for evaluation to show evidence of skill and knowledge
- use only teacher approved materials during an evaluation
- demonstrate the qualities of good character and good intention (honesty, caring, respectful, responsibility,) when preparing evidence of their learning.

If a student cheats on an assessment,

Students may be:

- required to complete an alternate evaluation under direct supervision in a timely manner
- required to write a reflective piece which demonstrates an understanding of the character attribute of honesty.
- assigned a mark deduction
- referred to a vice-principal
- assigned a zero.

Plagiarism:

Students are expected to demonstrate **HONESTY** and use proper citations and referencing when completing assessments. Plagiarism is defined as the unauthorized use or close imitation of the language and thoughts of another author and the representation of them as one's own original work. Examples include, but are not limited to; copying another's project (portions or whole) and paraphrasing parts of a book or article without reference or citation.

In order to ensure that all assessments are free from plagiarism,

Students will:

- Be required to complete a workshop in correct documentation
- produce their own work
- give credit through appropriate citations and referencing when quoting or paraphrasing the work of others
- be diligent in maintaining and protecting their own work
- seek clarification or assistance from teachers or other available resources

If an assessment is plagiarized,

Students may be:

- required to rewrite or resubmit all or parts of the assignment
- referred for remedial lessons on proper citation and references
- required to do a reflection on the character attribute of honesty
- referred to a vice-principal
- required to sign a contract with the administration and teacher about commitment to academic honesty
- assigned a zero.

LATE ASSIGNMENTS – assignments submitted after the due date and before the absolute deadline.

Students are expected to demonstrate **RESPONSIBILITY** and submit all assessments by the established due date. Students are responsible for providing evidence of their achievement of the overall course expectations within the time frame specified by the teacher and in a form approved by the teacher. There are consequences for not completing assignments for evaluation or for submitting those assignments late.

In order to ensure that all evaluations are submitted by the established due date,

Students will:

- record due dates in personal organizers
- consider other commitments including co-curricular activities in planning assignment completion
- negotiate alternate due date well before due date, not last minute (a minimum of 24 hours in advance or at teachers discretion)
- find out what they missed during absences
- use school support systems (i.e. special education, counselors, extra help, ...)

If an evaluation is submitted **after** the due date

Students :

- must notify the teacher and explain why the assignment was not submitted on the due date – in grades 9 & 10 a note from a parent/guardian may be required
- marks may be deducted for late assignments
- may be required to complete the assignment with supervision
- may be referred to a school based support team or a vice-principal
- may be placed on a contract for assignment completion

MISSED ASSIGNMENTS – assignments either not submitted or submitted after the absolute deadline

Excerpt from Policy 14.

In order to ensure that all evaluations are submitted,

Students will:

- be responsible for meeting and knowing absolute deadlines for missed assignments
- use personal organizers to manage time and meet deadlines
- be responsible for maintaining on- going communication with their teacher
- take responsibility for missed work during all absences

If an evaluation is submitted **after** the **absolute** deadline,

Students:

- must notify the teacher and explain why the assignment was not submitted
- students may be asked to provide a note from a parent/guardian
- may be required to complete the assignment or an alternate assignment under supervision
- may be referred to a school based support team or a vice-principal
- may be placed on a contract for assignment completion
- may be involved in an action plan to complete the required assignment within a given time frame
- may be assigned a zero.

Course Code: _____ Course Name: _____

Parent/Guardian Signature

Student Signature

Date