SCH3U – Grade 11
Chemistry
Course Profile & Evaluation

Course Description/Rationale/Overview

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.

Prerequisite: Science, Grade 10, Academic

Class Requirements

Student Responsibility

Students must seek assistance from the teacher and fellow students for all work missed due to meeting online requirements and must make arrangements to complete missed work.

Online/Offline Responsibility

Students are responsible for completing all online and offline work assigned through the Moodle.

Course Requirements/Department Policies

Late Assignments

Late assignments must be accompanied with a note signed by a parent or guardian stating the reason for tardiness of the assignment. The note must list the due date of the assignment and the actual date of submission.

If an assignment is handed in after it has been taken up/handed back, the student may not receive a mark for it.

Missed Tests

It is the student's responsibility to make arrangements, ahead of time, for any tests/quizzes that are missed. If a student misses a test/quiz for an unforeseen reason such as illness, the student must bring a note signed by a parent or guardian and be prepared to write the test/quiz immediately upon return to school.

Evaluation

Assignments, lab reports, projects, quizzes, tests and final examination

Curriculum Strands

1. Matter, Chemical Trends and Chemical Bonding
2. Chemical Reactions
3. Quantities in Chemical Reactions
4. Solutions and Solubility
5. Gases and Atmospheric Chemistry

Achievement Categories

Knowledge & Understanding	20%
Application	15%
Thinking & Inquiry	20%
Communication	15%

Learning Skills

- Initiative
- Work Habits/Homework
- Organization
- Works Independently
- Teamwork

Evaluation

Assignments and Lab reports	35 % (approximately)
Quizzes and Tests	35 % (approximately)
Final Evaluation	30 %

Resources

Textbook
None

Supplementary Teaching Materials
PhET simulations; virtual labs, worksheets organized by teacher; other online resources.

Course Outline

1. Matter, Chemical Trends and Chemical Bonding, Chemical Reactions
By the end of this course, students will:
1. analyze the properties of commonly used chemical substances and their effects on human health and the environment, and propose ways to lessen their impact;
2. investigate physical and chemical properties of elements and compounds, and use various methods to visually represent them;
3. demonstrate an understanding of periodic trends in the periodic table and how elements combine to form chemical bonds.
4. analyze chemical reactions used in a variety of applications, and assess their impact on society and the environment;
5. investigate different types of chemical reactions;
6. demonstrate an understanding of the different types of chemical reactions.

2. Quantities in Chemical Reactions
By the end of this course, students will:
1. analyze processes in the home, the workplace, and the environmental sector that use chemical quantities and calculations, and assess the importance of quantitative accuracy in industrial chemical processes;
2. investigate quantitative relationships in chemical reactions, and solve related problems;
3. demonstrate an understanding of the mole concept and its significance to the quantitative analysis of chemical reactions.

3. Solutions and Solubility
By the end of this course, students will:
1. analyze the origins and effects of water pollution, and a variety of economic, social, and environmental issues related to drinking water;
2. investigate qualitative and quantitative properties of solutions, and solve related problems;
3. demonstrate an understanding of qualitative and quantitative properties of solutions.

4. Gases and Atmospheric Chemistry
By the end of this course, students will:
1. analyze the cumulative effects of human activities and technologies on air quality, and describe some Canadian initiatives to reduce air pollution, including ways to reduce their own carbon footprint;
2. investigate gas laws that explain the behaviour of gases, and solve related problems;
3. demonstrate an understanding of the laws that explain the behaviour of gases.