

## Chimie 11

### Course Description

The Chemistry 11 and 12 program emphasizes the applications of science to everyday living and the skills needed in the workplace. To prepare students for further education and for their adult lives, the curriculum engages students in the investigation of scientific questions and the development of plausible solutions. Science education develops and builds on students' sense of wonder about the world around them and encourages a feeling of responsibility to sustain it. Science education fosters students' desire to meet a challenge, take risks, and learn from mistakes. It prompts a curiosity about the changing world and helps students understand that the skills and knowledge they are gaining will be refined and expanded to reflect advances in scientific knowledge and technology.

Chemistry is the science that deals with the properties and reactions of materials. It is concerned with the identification, characterization, and transformations of matter, and with the energy changes accompanying these transformations.

Through the study of chemistry, students at the senior secondary level develop understanding and appreciation of chemistry in the world around them and how it affects their everyday lives. Through participation in co-operative labs, independent research, and other classroom experiences, they acquire knowledge, skills, and attitudes (e.g., safe handling of materials, careful observation and measurement, effective problem solving, precise communication, careers in science and technology) that enable them to pursue further study and experience success in the workplace as informed decision makers and full participants. More generally, skills such as problem solving, collaboration, and discernment and application of information are also stressed.

As part of the French Immersion program, this course is conducted entirely in French and students are expected to communicate in French at all times.

### The curriculum for Chemistry 11 can be found at the following website,

In English or in French, <https://curriculum.gov.bc.ca/curriculum/science/11/chemistry>

- The core competencies of communication, thinking, and personal and social competencies will be incorporated and evaluated throughout the semester.
- The following Aboriginal Ways of Knowing will also be incorporated throughout the semester,
  - Learning ultimately supports the well-being of the self, the family, the community, the land.
  - Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).
  - Learning involves recognizing the consequences of one's actions.
  - Learning involves generational roles and responsibilities.
  - Learning recognizes the role of indigenous knowledge.
  - Learning is embedded in memory, history, and story.
  - Learning involves patience and time.
  - Learning requires exploration of one's identity.

### The Big Ideas of Chimie 11

<b>Atoms and molecules</b> are building blocks of matter.	<b>Organic chemistry</b> and its applications have significant implications for human health society, and the environment.	The <b>mole</b> is a quantity used to make atoms and molecules measurable.	Matter and energy are conserved in <b>chemical reactions</b> .	<b>Solubility</b> within a solution is determined by the nature of the solute and the solvent.
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## Content to be Addressed in Chimie 11

### Content – Elaborations

- **electron configuration:** molecular geometry, valence shell electron pair repulsion (VSEPR) theory
- **chemical bonding:** Lewis structures of compounds, polarity
- **bonds/forces:**
  - covalent bond
  - hydrogen bond
  - intra- and intermolecular forces
  - impact on properties
- **organic compounds:** names, structures, geometry
- **applications of organic chemistry:** First Peoples traditional practices (e.g., medicines), pharmaceuticals, petrochemicals, polymers, cosmetics, metabolism, agriculture, food, biotechnology
- **dimensional analysis:**
  - factor-label method (unit-analysis method)
  - calculation of mass and molar quantities (using significant figures)
- **reactions:** predicting products, reactants and energy changes ( $\Delta H$ )
- **stoichiometric calculations:**
  - mass
  - number of molecules
  - gas volumes
  - molar quantities
  - excess and limiting reactants
- **chemical processes:** First Peoples traditional practices (e.g., tanning hides; preparation of food, soap, and natural bleach), smelting, pulp and paper production, food chemistry, photosynthesis and cellular respiration, development of petrochemical smog
- **green chemistry:** development of sustainable processes and technologies that reduce negative impacts on the environment (e.g., reducing toxicity, designing benign solvents, increasing energy efficiency)
- **solubility:** dissociation of ions, dissociation equation
- **stoichiometric calculations in aqueous solutions:**
  - molarity
  - dilution effect
  - concentration of ions in solution when two solutions are mixed
- **analysis techniques:** e.g., dissolved oxygen, pH, nitrates, phosphorus

### Jeff O'Keefe's website,

<http://www.jeffokeefes.weebly.com>

Here, students will be able to find notes, documents, and videos utilized during this course along with supplemental resources and additional contact information for Jeff O'Keefe.



### Online portfolios (subject to change)

This year, ongoing student learning will be communicated to parents via an online Google Slides portfolio. This portfolio is to be completed in addition to traditional report cards which will also be submitted at the conclusion of each of term. This portfolio will be accessible only by the student, the student's parents, and the teacher, and will provide insight into the student's progression through the core competencies, curricular competencies, and course content. Additional information is to be provided at a later date.

## Politiques de la salle de classe

Pour bien réussir ce cours, les élèves doivent faire le suivant,

1. **Arriver à l'heure** avec tout ce dont ils ont besoin pour l'apprentissage.
2. **Parler en français** avec ses pairs et avec son enseignant à tout moment.
3. Démontrer le **respect** envers soi-même et envers les autres.
4. Toujours **faire de son mieux** avec les travaux individuels et les travaux de groupe.
5. Compléter et soumettre tous leurs travaux à l'heure.
6. **Participer** aux activités de groupe et avec la classe entière de façon appropriée et constructive.
7. Chercher de l'aide s'il ou elle en a besoin.
8. Prendre toutes mesures raisonnables pour assurer qu'aucun test, devoir, ou matériel d'apprentissage ne soient manqués lors d'une absence. C'est **la responsabilité de l'élève** de venir voir l'instructeur pour acquérir les matériaux manqués et pour faire un rendez-vous pour écrire une évaluation manquée.

Les critères ci-dessus seront aussi utilisés pour déterminer la note de G, S, ou N sur les bulletins.

## Classroom policies

To succeed in this course, students must do the following,

1. Come to class **on time** with all required materials.
2. **Speak in French** with his/her classmates and his/her teacher at all times.
3. **Respect** himself/herself and respect others.
4. Always **do one's best** on individual assignments and on group assignments.
5. Complete all assignments on time.
6. **Participate** in all activities in an appropriate and constructive fashion.
7. Obtain help if it is needed.
8. Take all reasonable measures to ensure no assignments, information, or evaluations are missed due to an absence, whether excused or unexcused. It is **the student's responsibility** to come see the instructor, within a reasonable amount of time, to catch up with any material that may have been missed.

## Students are expected to bring the following to each block,

- A 3-ring binder with paper
- At least one writing utensil
- A scientific calculator

## Evaluation and Marks (subject to change)

Students will be evaluated formatively and summatively during in-class assignments, individual and group discussions, and formal written assessments.

Breakdown of summative assessment for each unit

Quizzes and unit test – 75%

Lab report – 25%

Breakdown of summative assessment for the course as a whole

Quizzes – 30%

Lab reports – 20%

Unit tests – 30%

Final exam – 20%

## Letter Grade Descriptions

- A** = (86%-100%) The student demonstrates excellent or outstanding performance in relation to the learning outcomes for the course or subject and grade.
- B** = (73%-85%) The student demonstrates very good performance in relation to the learning outcomes for the course or subject and grade.
- C+** = (67%-72%) The student demonstrates good performance in relation to the learning outcomes for the course or subject and grade.
- C** = (60%-66%) The student demonstrates satisfactory performance in relation to the expected learning outcomes for the course or subject and grade.
- C-** = (50%-59%) The student demonstrates minimally acceptable performance in relation to the learning outcomes for the course or subject and grade.
- I** = (*In Progress or Incomplete*) The student, for a variety of reasons, is not demonstrating minimally acceptable performance in relation to the learning outcomes. An "I" letter grade may only be assigned in accordance with section 3 of the Provincial Letter Grades Order.
- F** = (0%-49% *Failed or Failing*) The student has not demonstrated or is not demonstrating the minimally acceptable performance in relation to the learning outcomes for the course or subject and grade. The letter grade "F" may only be assigned if an "I" (*In Progress*) letter grade has been previously assigned for that course or as a result of failing a provincially examinable course.
- W** = (*Withdrawal*) According to the policy of the board, and upon request of a parent of the student or, when appropriate, the student, the principal, vice principal, or director of instruction in charge of a school may grant permission to a student to withdraw from a course or subject.
- SG** = (*Standing Granted*) Although completion of normal requirements is not possible, a sufficient level of performance has been attained to warrant, consistent with the best interests of the student, the granting of standing for the course or subject and grade. *Standing Granted* may be used in cases of serious illness, hospitalization, late entry or early leaving, but may only be granted by an adjudication process authorized by the principal, vice principal or director of instruction in charge of the school. *Standing Granted* may not be used for Graduation Transitions or for a course with a required Graduation Program Examination.
- TS** = (*Transfer Standing*) May be granted by the principal, vice-principal, or director of instruction in charge of a school on the basis of an examination of records from an institution other than a school as defined in the School Act. Alternatively, the principal, vice principal or director of instruction in charge of the school may assign a letter grade on the basis of an examination of those records. *Transfer Standing* may not be used for Graduation Transitions.
- RM** = (*Requirement Met*) The student has met the learning outcomes for Graduation Transitions. *Requirement Met* may only be used for Graduation Transitions.

### Contact Information for Jeff O'Keefe

E-mail           jokeefe@sd22.bc.ca  
Telephone       (250)-542-3361

Students and parents are strongly encouraged to contact Jeff O'Keefe at any time to inquire as to one's progress being made in the course or to discuss any other pertinent matter.

### First Homework assignment

Show this document to your parents or guardians and have them e-mail me at [jeffokeefe250@yahoo.ca](mailto:jeffokeefe250@yahoo.ca) with the following information,

1. Whose parent or guardian they are
2. Any pertinent information regarding their child
3. Any questions or concerns they might have
4. Any additional or preferred contact information