

SAMPLE COURSE OUTLINE

Course Code, Number, and Title:

CHEM 1121: General Chemistry I

Course Format:

[Course format may vary by instructor. The typical course format would be:]

Lecture 3.0 h + Seminar 0.0 h + Lab. 3.0 h

Credits: 4.0

Transfer Credit: For information, visit bctransferguide.ca

Course Description, Prerequisites, Corequisites:

This course constitutes a first-year course in general college chemistry. Topics include: quantum chemistry, bonding, absorption of energy by molecules, applications of structure, and chemistry in society. Students may obtain credit for only one of: CHEM 1120 OR CHEM 1121. These courses have the same learning outcomes but differ in their delivery mode. CHEM 1121 and CHEM 1221 will run with 100% online lectures and 100% online synchronous labs.

Note: Students intending to use this course for transfer to a university should be aware that this course is not intended to transfer to UBC Vancouver as CHEM 121.

Students will receive credit for only one of CHEM 1120 or 1121.

Prerequisite(s): A minimum "C-" grade in CHEM 1118 or a minimum "B" grade in Chemistry 12; and a minimum "C" grade in MATH 1152 or Precalculus 12, or MDT 75. Prerequisites are valid for three years.

Learning Outcomes:

Upon successful completion of this course, students will be able to...

- Follow laboratory procedures to perform chemistry experiments virtually and efficiently.
- Make use of careful measurement techniques and correctly interpret data to solve typical problems in general chemistry.
- Apply the basic principles of quantum theory principles to calculate the energy, momentum and frequency of photons and particles.
- Explain how the electronic energy level diagram of a hydrogen atom correlates to its atomic spectrum.
- Assign a valid set of quantum numbers to each electron in a given atom.
- Predict chemical reactivity and key atomic property trends found in the periodic table.
- Draw the Lewis structure for inorganic and organic molecules and molecular ions.
- Predict the geometry and dipole moments of simple molecules based on VSEPR theory.
- Correlate molecular structure to molecular polarity and intermolecular forces in order to predict physical properties such as boiling and melting points.

- Be able to distinguish and name different organic functional groups.
- Apply the principles of chemical bonding and molecular structure to understand the properties of polymers, biopolymers and selected examples of disease/drug interactions.
- Assess and critique issues related to chemistry and society.

Instructor(s): TBA
Office: TBA
Office Hours: TBA

Phone: (604) 323-XXXX

Email: TBA

Textbook and Course Materials:

[Textbook selection may vary by instructor. An example of texts and course materials for this course might be:]

For textbook information, visit https://mycampusstore.langara.bc.ca/buy_courselisting.asp?selTerm=318

Note: This course may use an electronic (online) instructional resource that is located outside of Canada for mandatory graded class work. You may be required to enter personal information, such as your name and email address, to log in to this resource. This means that your personal information could be stored on servers located outside of Canada and may be accessed by U.S. authorities, subject to federal laws. Where possible, you may log in with an email pseudonym as long as you provide the pseudonym to me so I can identify you when reviewing your class work.

Assessments and Weighting:

Final Exam 25%

Other Assessments 75%

(An example of other assessments might be:)

Midterm Exam 40%

Lab Work 15%

Quizzes/Tests 10%

Assignments 10%

Grading System:

Specific grading schemes will be detailed in each course section outline.

Information unavailable, please consult Department for details.

Topics Covered:

[Topics covered may vary by instructor. An example of topics covered might be:]

- Unit 1: Matter, Energy and Quantum Theory of the Atom (3 weeks)
- Unit 2: Electron Configurations and Periodic Properties (3 weeks)
- Unit 3: Chemical Bonding (Lewis Theory, Valence Bond, VSEPR, MO Theory) (3 weeks)
- Unit 4: Organic Chemistry (3 weeks)
- Unit 5: Chemistry and Society (1 week)

“This Sample Course Outline is for planning purposes only”.

Page 2 of 3

As a student at Langara, you are responsible for familiarizing yourself and complying with the following policies:

College Policies:

[E1003 - Student Code of Conduct](#)

[F1004 - Code of Academic Conduct](#)

[E2008 - Academic Standing - Academic Probation and Academic Suspension](#)

[E2006 - Appeal of Final Grade](#)

[F1002 - Concerns about Instruction](#)

[E2011 - Withdrawal from Courses](#)

Departmental/Course Policies:

Information unavailable, please consult Department for details.

