**Course Name:** Chemistry 2

**Course Number:** CHEM 1223  
**Number of Credits:** 4.0  
**Effective Date:** September 2016

**Course Description:**
The second course of the CHEM 1121/1223 two-course sequence emphasizes the basic principles of chemical kinetics, chemical thermodynamics and organic chemistry. The laboratory in Chemistry 2 allows students to practice techniques learned in Chemistry 1. Students are expected to increase skills in making observations, recording data accurately, interpreting data and generating hypotheses. Both the lab and lecture portions need to be passed in order to pass the course. Chemistry 2 is designed for students seeking a degree or diploma in a field of science, technology, or health, among others. It is suitable as an elective course.

**School or Centre:** School of Access

**Year of Study:** 1st Year Post-secondary

**Course History:** Revised Course

**Course Pre-requisites (if applicable):**
Chemistry 1 (CHEM 1121) with a C-

**Course Co-requisites (if applicable):**

**PLAR (Prior Learning Assessment & Recognition):**

☐ No  ☐ Yes (details below):
Instructional Strategies:
The course will be a combination of lectures, discussion, research, and presentation in a classroom and laboratory setting.

Course Learning Outcomes:
At the end of the course the student will be able to
- solve problems in chemical thermodynamics and chemical kinetics involving the physical properties of matter in the solid, liquid and gaseous states.
- describe the structure and reactivity of organic molecules.
- make use of careful measurement techniques and correct handling of data to solve typical problems of General Chemistry.
- work effectively with others in a laboratory situation through team-based learning.

Program Learning Outcomes:
If this course is taken as a requirement or an elective in the following First Year University Transfer Certificate programs, the learning outcomes are found in the Program Content Guides available at the Counselling and Advising Service areas.

University Transfer Arts Certificate
University Transfer Pathway to Health Sciences Certificate
University Transfer Science Certificate
University Transfer Engineering Certificate
University Transfer Computing Science and Software Systems Certificate
## Evaluation/Grading System

<table>
<thead>
<tr>
<th>Grading System</th>
<th>Specify if 'Other':</th>
<th>Specify Passing Grade:</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>D</td>
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## Components and Weighting of the Assessment/Evaluation Plan:

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
<th>Evaluation Plan (provide a brief explanation for each component especially if value exceeds 35%):</th>
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<tbody>
<tr>
<td>Other</td>
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<tr>
<td>Assignments</td>
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</tr>
<tr>
<td>Midterm Exam</td>
<td>30</td>
<td>2 midterms (both 15%)</td>
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<tr>
<td>Final Exam</td>
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<tr>
<td>Lab Work</td>
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<td>10 labs</td>
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Total 100

## Learning Environment/Type

<table>
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<tr>
<th>Instruction Type</th>
<th>Hours Per Instruction Type</th>
<th>Comments</th>
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<tbody>
<tr>
<td>L - Classroom</td>
<td>60</td>
<td>classroom</td>
</tr>
<tr>
<td>B - Lab (Computer, Chemistry...)</td>
<td>60</td>
<td>chemistry lab</td>
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</table>

Total 120

## Resource Material(s):

Resources are items in addition to tuition that the student is responsible for purchasing. Course resource information will be supplied by the department/instructor.
General Chemistry (Review energy, acid-base concepts, the equilibrium state)
Thermodynamics: Entropy, Free Energy, and Equilibrium
Chemical Kinetics
Organic Chemistry: Bonding, Structure, and Reactivity

VCC Education and Education Support Policies
There are a number of Education and Education Support policies that govern your educational experience at VCC, please familiarize yourself with them.

The policies are located on the VCC web site at:
http://www.vcc.ca/about/governance--policies/policies/

To find out how this course transfers, visit the BC Transfer Guide at www.bctransferguide.ca.

FOR COMMITTEE USE ONLY

<table>
<thead>
<tr>
<th>Approved by Curriculum Committee:</th>
<th>Approved by Education Council:</th>
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