



# COURSE OUTLINE

**Course Name:** Introductory Chemistry - Part 1

**Course Number:** CHEM 1061

**Number of Credits:** 3.0

**Effective Date:** January 2018

**Course Description:**

This course is designed to introduce the student to the basic concepts of chemistry through lecture and laboratory activities. The content includes the scientific method, measurements, safety measures in a laboratory environment, density, elements and compounds, properties of matter, early atomic theory, atomic mass, nomenclature, percent composition, mole and molar mass, balancing equations, stoichiometry, gases, and heat in chemical reactions.

Both Chemistry 1061 and Chemistry 1071 are required for covering the chemistry topics contained in high school courses up to and including the Grade 11 level. It is recommended that Chemistry 1061 be taken before or at the same time as Chemistry 1071.

**School or Centre:**

School of Arts and Sciences

**Year of Study:**

1st Year Post-secondary

**Course History:**

New Course

**Name of Replacing Course (if applicable):**

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

- English 10 or equivalent
- Precalculus 11 (successfully completed within the last 3 years, a minimum score of 72% on the Intermediate Algebra Math Assessment, or equivalent). If the math prerequisite is not met, MATH 0861 or MATH 1061 must be taken at the same time as CHEM 1061.

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

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

No  Yes (details below):

**Instructional Strategies:**

Class-based: Chemistry 1061 uses a lecture-based model. A significant amount of class time will be spent on hands-on activities, concept-development worksheets and problem-solving. A minimum of four labs will be conducted and will relate to the core topics.

**Course Learning Outcomes:**

Upon successful completion of this course, the student will be able to:

- Demonstrate the concepts of precision and accuracy by utilizing significant figures
- Perform conversions with the SI system and using scientific notation
- Differentiate between the phases of matter and identify chemical or physical properties of substances
- Describe Dalton's Atomic Theory and the Law of Constant Composition
- Perform calculations including molar and formula mass, mole to mass conversions, and percent composition by mass of compounds
- Analyze the historical development of atomic theory
- Write names for compounds given the formulae and write formulae for compounds given the names for covalent compounds, ionic compounds, compounds containing polyatomic ions or transition metals, and acids
- Balance equations and perform stoichiometric calculations including mass-to-mass, limiting reagent, and percent yield
- Classify and predict single and double replacement reactions, combustion reactions, acid- base neutralizations, synthesis, decomposition, exothermic and endothermic reactions
- Perform experiments safely, collect and record data effectively, analyze and interpret data, and write formal reports

**Program Learning Outcomes:**

N/A

## Evaluation/Grading System

Grading System	Specify if 'Other':	Specify Passing Grade:
Letter Grades		D

## Components and Weighting of the Assessment/Evaluation Plan:

Type	Percentage	Evaluation Plan (provide a brief explanation for each component especially if value exceeds 35%):
Assignments	5	
Lab Work	20	includes formal and informal lab reports
Exam	65	four tests at 15% to 20% each
Quizzes/Tests	10	5 quizzes for a total of 10%
<b>Total</b>		<b>100</b>

## Learning Environment/Type

Instruction Type	Hours Per Instruction Type	Comments
L - Classroom	60	classroom and lab
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<b>Total</b>		<b>60</b>

## 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.

## Course Topics:

Scientific Method  
Measurements  
Safety Measures in a Laboratory Environment  
Density  
Elements and Compounds  
Properties of Matter  
Early Atomic Theory  
Atomic Mass  
Nomenclature  
Percent Composition  
Mole and Molar Mass  
Balancing Equations  
Stoichiometry  
Heat in Chemical Reactions  
Gases (optional)

## 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](http://www.bctransferguide.ca).

### FOR COMMITTEE USE ONLY

Approved by Curriculum Committee:	June 20, 2017	Approved by Education Council:	September 12, 2017
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