



## COURSE OUTLINE

The course description is online @ <http://camosun.ca/learn/calendar/current/web/chem.html>

Ω Please note: the College electronically stores this outline for five (5) years only.  
It is **strongly recommended** you keep a copy of this outline with your academic records.  
You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

### 1. Instructor Information

(a)	Instructor:	Daniel Donnecke		
(b)	Office Hours:	Wednesday 12:30 – 13:20		
(c)	Location:	Tec 232 or Tec 230		
(d)	Phone:	250 370 4447	Alternative Phone:	
(e)	Email:	donnecked@camosun.bc.ca		
(f)	Website:			

### 2. Intended Learning Outcomes

(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)

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

1. Apply the safety procedures applicable to a chemistry laboratory.
2. Apply the basic terminology and tools used in chemistry including: components of the periodic table, units, the mole concept, balancing of equations, chemical nomenclature and chemical bonding.
3. Use the gas laws to calculate changes in a gas temperature, pressure and volume and apply the concepts of vapour pressure and partial pressure.
4. Describe the processes of dissolution and precipitation and apply equations of solubility; differentiate between a solution and a suspension.
5. Describe common contaminants in natural water supplies and the methods used for measuring them.
6. Define LD50 and describe simple concepts of toxicology.
7. Describe the natural cycles of nitrogen, phosphorus and carbon.
8. Identify various types of bacteria and their metabolism.
9. Describe bacterial growth and the bacterial growth curve.
10. Apply the fundamentals of chemistry to such applications as: corrosion and cathodic protection; hydration of Portland cement; polymers and plastics.

### 3. Required Materials

- (a) Texts: No text is required, but it is highly recommended that you have a first year university chemistry text, either used or from the library. Brown Le May "Chemistry the central science" is a good book. Petrucci "General Chemistry" is an excellent book. Older editions are fine. There are a few copies in the library including a Petrucci in the reserved reading section.
- (b) Other: Lab procedures are posted on d2l. You need to print them and bring them to each lab as they contain the procedures for the experiments and instructions on the lab write-up. You need safety glasses in the lab!

### 4. Course Content and Schedule

(This section can include: class hours, lab hours, out of class requirements and/or dates for quizzes, exams, lectures, labs, seminars, practicums, etc.)

Section X01A and X01B Lecture M, Tu, W, Th, 1:30 pm - 2:20 pm, Tec 173

Laboratory: F 3:30 pm – 5:20 pm alternate weeks, Tec 230

Section X02A and X02B Lecture M, Tu, W, Th, 4:30 pm - 5:20 pm, Tec 110

Laboratory: F 1:00 pm – 2:50 pm alternate weeks Tec 230  
Section X03A and X03B Lecture M, Tu, W, Th, 10:30 am - 11:20 pm, Tec 173  
Laboratory: F 10:30 am – 12:20 pm alternate weeks, Tec 230  
Section X03C and X03D Lecture M, Tu, W, Th, 10:30 am - 11:20 pm, Tec 173  
Laboratory: F 3:30 pm – 5:20 pm alternate weeks, Tec 230

### Detailed outline

<b>Week</b>	<b>Activity</b>
	Labour Day, College closed
1	Lab safety <b>both sections attend!</b>
2	<i>Lab 1 Stoichiometry: Decomposition of Copper Bromide</i>
3	<b>Term Test 1;</b> <i>Lab 1 Stoichiometry: Decomposition of Copper Bromide</i>
4	<i>Lab2 The molar Volume of Hydrogen</i>
5	<i>Lab 2 The molar Volume of Hydrogen</i>
6	Thanksgiving, College closed <i>Lab 3 Hardness of water, titrating combined Calcium and Magnesium in Colquitz River water</i> <b>Term Test 2;</b>
7	<i>Lab 3 Hardness of water, titrating combined Calcium and Magnesium in Colquitz River water</i>
8	<i>Lab 4 Spectrophotometric determination of Copper</i>
9	<b>Midterm</b> <i>No labs during midterm week.</i>
10	Remembrance Day, College closed
11	<i>Lab 4 Spectrophotometric determination of Copper</i>

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**Term Test 3;**

- 12 *Lab 5 Trace Metals in Natural Waters, Atomic Absorption Spectroscopy*

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- 13 *Lab 5 Trace Metals in Natural Waters, Atomic Absorption Spectroscopy*

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- 14 Review during lab time

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- 15 Final Exam Period
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**5. Basis of Student Assessment (Weighting)**

*(This section should be directly linked to the Intended Learning Outcomes.)*

**Evaluation****Grading as in Camosun College Calendar**

Laboratory (5)	16%
Term Tests(3)	24%
Midterm	20%
Final	40%
<b>Total</b>	<b>100%</b>

Term Tests will cover sections of the course while the midterm and the final will cover all the material up to the midterm and the final respectively. Problem sets which will help you prepare for exams will be posted on D2L approximately every two to three weeks. These problem sets will not be graded but answer keys will be published. A lab that is missed without a valid reason such as a doctor's note or incomplete because no report was handed in by the beginning of the following lab period receives a mark of zero. If you miss a term test or the midterm because you were ill or had a serious emergency of which you have informed me before or immediately after the exam and provided acceptable proof you will be granted a rewrite at a time convenient to both of us. You must pass the lab to pass the course. You must also pass the final exam to pass the course.

## 6. Grading System

(No changes are to be made to this section unless the Approved Course Description has been forwarded through the Education Council of Camosun College for approval.)

### Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D	Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite.	1
0-49	F	Minimum level has not been achieved.	0

### Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy E-1.5 at [camosun.ca](http://camosun.ca) for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	<i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	<i>In progress:</i> A temporary grade assigned for courses that, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. (For these courses a final grade will be assigned to either the 3 <sup>rd</sup> course attempt or at the point of course completion.)
CW	<i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.

## 7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

### LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services, or the College web site at [camosun.ca](http://camosun.ca).

### STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services, and the College web site in the Policy Section.

### ADDITIONAL COMMENTS AS APPROPRIATE OR AS REQUIRED