



## 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

Instructor:	Diana Li
Office Hours:	Mon & Thu 13:30-14:20, Mon, Wed & Thu 15:30-16:20, or by appointment.
Location:	F344C
Phone:	250-370-3444
Email:	<a href="mailto:lid@camosun.bc.ca">lid@camosun.bc.ca</a>
Website:	<a href="http://camosun.ca/learn/programs/chem.html">http://camosun.ca/learn/programs/chem.html</a>

\*\*To avoid class interruptions & cancellations, please refrain from wearing fragrance or other strongly scented products to class!\*\*

### 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. Utilize the specialized vocabulary and nomenclature based on the IUPAC system of organic compounds to name and draw structures for many simple organic compounds containing the common functional groups.
2. Write chemical reactions to illustrate numerous transformations between organic functional groups.
3. Draw structural and stereoisomers of organic compounds and name stereoisomers based upon the IUPAC system of nomenclature.
4. Demonstrate an understanding of the factors that influence the rate of a chemical reaction, deduce the rate of a chemical reaction from time/concentration data, and utilize rate laws to perform kinetic calculations.
5. Apply the laws of thermodynamics and account for the factors that lead to spontaneous physical and chemical changes.
6. Explain how and why reactions attain equilibrium positions and perform calculations pertaining to equilibrium systems.
7. Describe redox reactions, use electrochemical data to predict the spontaneity of redox reactions, and comprehend the structures of electrochemical cells.
8. Describe various acid-base theories and apply these theories to acid-base reactions in aqueous solution.
9. Perform experiments in the areas of preparative organic, preparative inorganic, physical and analytical chemistry and use the various associated pieces of laboratory equipment.

### 3. Required Materials

Texts	"Chemistry, The Central Science: a broad perspective" by Brown et al., 2014—a.k.a. 3 <sup>rd</sup> Australian Custom BLB Edition.
Other	◆ Chem 121 Lecture Notes Supplement & Appendix by D. Li, Winter 2015 Ed. This supplement goes with both 2 <sup>nd</sup> & 3 <sup>rd</sup> Australian editions of BLB but the 3 <sup>rd</sup> Australian edition is preferred. Note: Homework questions selected from both editions are not necessarily identical or equivalent. ◆ Chem 121 Lab Manual ◆ Darling Molecular Model Kit—highly recommended for Chem 121 and other 2 <sup>nd</sup> year Chemistry courses (Chem 230, 231, etc.) ◆ Eye protection is mandatory & lab coat is recommended in the lab!

#### 4. Course Content and Schedule

Lecture Plan:		
Chapter	Topic (approximate number of lecture hours)	
3 <sup>rd</sup> Ed. [2 <sup>nd</sup> Ed.]		
22-28	[21-27]	Selected Topics in Organic Chemistry (9)
15	[12]	Chemical Kinetics (7)
14	[4]	Thermochemistry (4)
14	[4]	Thermodynamics (3)
16	[13]	Chemical Equilibrium (3)
17	[14]	Acid-Base Equilibria (4)
18	[15]	Additional Aspects of Aqueous Equilibria (4)
19	[16]	Electrochemistry (3)

#### 5. Basis of Student Assessment (Weighting)

Labs (up to 8 experiments)	22%
Test I (Organic Chem)	16% (Week V Lab Period)*
Test II (Kinetics, Thermochem, & Thermodynamics)	22% (Week XII Lab Period)*
Final Exam (comprehensive)	40% (TBA~Week VII, 3 hours in April)

\* Test dates to be confirmed during the first two weeks of classes in January.

#### Notes:

- (1) Student must pass the lab portion of the course to obtain credit for Chem 121. Your lab faculty will go over the lab component of Chem 121 and lab evaluation with you...
- (2) Student is encouraged to attempt both tests. Test score that is not as high as that of the April final exam will be dropped automatically and its weight redistributed to the final exam. However anyone who is caught cheating will receive zero for that test which will not be redistributed. For anyone who misses both tests, your final exam will then be 78% of the course grade!
- (3) Student must write each test as scheduled for his/her section. No one is allowed to write late and there will be no exceptions. Early exam is a privilege and not a right, thus, at full discretion of the instructor.

#### 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. Important Dates

Week

- V **Test I in Lab:** Feb 6 (Fri) 13:30-16:00.  
VI Family Day: Feb 9 (Mon)—College Closed  
Reading Break: Feb 12 & 13 (Thu & Fri).  
X Mar 9 (Mon): Last Day to Withdraw or Change to Audit...  
XII **Test II in Lab:** Mar. 27 (Fri) 13:30-16:20.  
XIII Good Friday: Apr. 3 (Fri)—College Closed  
XIV Easter Monday: Apr. 6 (Mon)—College Closed  
April 13: First Day of Exams for Winter 2015

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

### Articles in the Library Reserve Room for Chem 120 & 121

2<sup>nd</sup> & 3<sup>rd</sup> Australian Editions of B-L-B. Online resource tool: [www.pearsoned.com.au/brown](http://www.pearsoned.com.au/brown).  
(Note: Answers to red & black numbered exercises are available from Di & she will email the 3<sup>rd</sup> edition answers to everyone. Please email Di if you need the 2<sup>nd</sup> edition answers.)

### 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.

*Students may not use recording devices in the classroom without the prior permission of the instructor. However, the instructor's permission is not required when the use of a recording device is sanctioned by the College's Resource Centre for Students with Disabilities in order to accommodate a student's disability and when the instructor has been provided with an instructor notification letter which specifies the use of a recording device. Recordings made in the classroom are for the student's personal use only, and distribution of recorded material is prohibited.*